

STATE LIBRARY OF PENNSYLVANIA



3 0144 00132928 3

P4G 192.17/4

Vol. 42, 1971

PENNSYLVANIA STATE LIBRARY
General Library Bureau
Government Publications





Digitized by the Internet Archive
in 2016

A detailed illustration of a bobcat standing in a snowy forest. The bobcat is shown in profile, facing right, with its body covered in brown and black spots. It has a white ruff around its neck and a short, spotted tail. The background features snow-covered ground, birch trees with white bark, and evergreen trees in the distance. The overall scene is a winter forest.

PENNSYLVANIA GAME NEWS

JANUARY 1971

15 CENTS

PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION

DEC 21 1970

NED SMITH

PENNSYLVANIA GAME NEWS

Volume 42 • Number 1

JANUARY, 1971

Published Monthly by the
PENNSYLVANIA GAME
COMMISSION

COMMONWEALTH OF
PENNSYLVANIA

Raymond P. Shafer
Governor



COMMISSION MEMBERS

Robert E. Fasnacht, President
Ephrata
H. L. Buchanan, Vice-President
Franklin
Loring H. Cramer, Secretary
East Stroudsburg
Russell M. Lucas
Philipsburg
James A. Thompson
Pittsburgh
Frederick M. Simpson
Huntingdon
Edwin J. Brooks
Lansdale
Andrew C. Long
Shamokin



Glenn L. Bowers
Executive Director



PENNSYLVANIA GAME NEWS

Robert S. Bell
Editor
R. Theodore Godshall
Associate Editor
John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
Baker's Dozen	2
By Paul Suscavage	
Portrait of a Setter	7
By Kay and George Evans	
Please—BEAR With Us!	11
By Leo A. Luttringer and Hayes T. Englert	
The Dean Observes a Diamond Anniversary	17
By John Crowe	
Evaluation of Game-Farm and Wild-Trapped Turkeys in Pennsylvania	20
By Gerald A. Wunz	

NEWS

Financial Report for the Fiscal Year July 1, 1969, to June 30, 1970	27
By John M. Smith	
Field Notes	34
Conservation News	39
Hunter Safety Education	45
By John C. Behel	

COLUMNS

A Naturalist's View of Wildlife (The White-tailed Deer)	47
By Leonard Lee Rue, III	
Camping Potpourri (Camping)	51
By Les Rountree	
After You Score (Archery)	55
By Keith C. Schuyler	
Hints for 1971 (Guns)	60
By Don Lewis	

COVER PAINTING BY NED SMITH

His scientific name is *Lynx rufus*. Most Pennsylvania outdoorsmen call him wildcat or bobcat, and occasionally he's referred to as the Eastern bay lynx. Through the years, many fearsome tales have been told about this small, short-tailed cat—most of them, as is normal when dealing with a comparatively rare animal—false. The bobcat offers no danger to humans and, because his numbers are so limited, he has an extremely limited effect on other wildlife. To preserve him from extinction in Pennsylvania, the bobcat recently was placed on this state's list of protected wildlife. Anyone fortunate enough to see a bobcat in the wilds, as typified by our cover, will have a memory to treasure.

Published MONTHLY by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$1.50 per year; \$4 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved.

NOTICE: Subscriptions received and processed by the last day of each month will begin with the second month following.

Printed by Times and News Publishing Co., Gettysburg, Pa.
Second Class Postage Paid at Gettysburg, Pa. 17325

Notes on the Past Year

AT THE START of a new year, we often look back over the previous twelve months, to review what happened—both good and bad—and perhaps to see if any progress was made in specific areas. We thought the following Game Commission items were worthy of mention: Some 60,000 youngsters received hunter safety training . . . hunter safety was the theme of the Commission's major exhibit for sports shows . . . Pennsylvania's share of the Pittman-Robertson Wildlife Restoration and Research Funds for 1969-70 was \$1,280,101 . . . chasing wildlife with snowmobiles was vigorously discouraged (and is subject to a fine) . . . 139,000 archers took 3169 deer during the 1969-70 season . . . 45,519 acres of land were acquired during the fiscal year . . . 59,923 antlered deer (the fourth highest buck harvest) and 56,761 antlerless deer were taken in the 1969-70 seasons. . . .

The PGC and Allegheny National Forest officials began game and waterfowl development work on 9000 acres of ANF land . . . the 14th student officer class began training at the Ross Leffler School of Conservation . . . 200 wild-trapped ringnecks were traded to South Dakota for 200 sharp-tailed grouse . . . over 20,000 deer were killed on highways . . . the release or importation for release of certain wild animals including cougar, tiger, leopard, lion and other species was banned . . . the bobcat was declared a game animal and given full protection . . . analysis of deer harvest showed that over 60 percent of bucks are taken on opening day . . . Pennsylvania was first in the nation in hunting license sales . . . dogs killed over 1300 deer in the first three months of the year . . . junior hunters bagged 13,850 whitetails . . . less than 80 percent of successful hunters returned deer kill tags . . . Big Game Records booklet was made available and the birdlife and mammals books were re-printed . . . 236,000 game birds were released in state . . . 338,500 antlerless deer licenses were offered . . . the season on black bear was closed in 1970 . . . Andrew C. Long and Marshall E. Jetty were confirmed as Game Commission members. . . .

Hunters from 40 states took deer in Pennsylvania . . . over \$200,000 from Game Fund distributed to local government units in lieu of taxes on State Game Lands . . . waterfowl shooting at Pymatuning continued excellent . . . minerals, oil and gas income for the biennium was \$200,647 . . . September 1 to January 16 designated "Hunt Safely Time" by Governor Raymond P. Shafer . . . compound bows and tranquilizer arrows declared illegal . . . sportsmen urged not to hunt on medial strips of interstate highways . . . hunters encouraged to wear fluorescent orange . . . Pennsylvania-caught furs valued at \$646,646 . . . many pheasants and turkeys for hunters . . . Scotia rifle and pistol range open to public . . . four deer check stations again in use . . . snowmobiles, ATV's and all other vehicles barred from Game Lands during deer season, except on roads declared open to public . . . meat plants permitted to process deer.

Did you remember?—*Bob Bell*



Baker's Dozen

By Paul Suscavage

ONCE again, the old man bent over and counted the eyelets on his left boot. Twelve. To him it seemed highly coincidental that the number was exactly the same as the number of times a bullet from his rifle had downed nice bucks.

His thoughts on the eyelets dissipated when his sharpened senses picked up the sound of an animal approaching from the rear. Slowly his hand eased toward the safety on his rifle. He sat silently, hoping the wind would not change and give away his presence in the event it was a deer, a trophy size deer. His breathing decreased to what seemed to him to be a few breaths per minute.

Then he heard the bark of a squirrel and turned around to see a large gray which momentarily looked as if it had forgotten what it was doing. It held a big acorn in its mouth. The old man watched as the squirrel, defiantly disregarding his presence, buried his harvested nut under the leaves of the forest floor. The task completed, the squirrel hastened away in search of another nut, always racing against his enemies, time and the forthcoming snow.

The old man again was left with the solitude of his thoughts. He began to recall his successes in the field—twelve successes. It was quite true that he had not scored every season from the first year he had trod ridge and field with a license on his back. It was also true that from the instant his first buck hit the ground he stopped thinking of himself as a hunter and began considering himself a sportsman. But it had always been true that the size of the hardware on a deer's head had never influenced his choice of a target. He was an ardent advocate of a little known saying, "The true trophy buck is sometimes not a trophy at all."

He had heard the phrase from his father and, upon inquiring about it, had been told the story of a trophy buck called Tenderfoot. This deer once lived on a mountainside near his father's small boyhood town. The deer was called this because the closest anyone ever came to downing him was when an Indian who lived in the village when he was not trapping sank a "silent bullet"—an arrow—into the buck's front leg near the knee. After this the deer could never apply full pressure on the leg because of the "tender" area.

This big deer had been stalked from opening hour to the fleeting minutes of the final day of deer season. The constant hunting pressure went on each year until one season no one from the village spotted the trophy deer. It was as if the mountains had swallowed him up. Had the whitetail been killed by predators? Or perhaps by poachers? Or had it contracted a disease and died? Through the early part of spring, the questions remained unanswered. A partial answer came in late April when the village carpenter's son found one side of the deer's rack in the ravine by the O'Hopson spring. This suggested that the deer was still in the area.

Main Topic

Throughout the entire summer of that year the main topic of discussion in the village was the upcoming deer season and the hope that someone would collect the elusive Tenderfoot. As autumn approached in the wake of the long summer, it marked a time not only of bright leaves, short days and morning awakenings to chilly bedrooms, but also a time of a certain attitude which sets a hunter thinking of nothing but getting into the woods after game. He knows that each stalk will be one of freshness and fulfill-



OF THE DOZEN DEER to his credit, only one had a rack of better than four points. The old man had never considered himself a trophy hunter.

ment, even though it may have been reenacted countless times in the history of man. Truly, this is the season of the hunter.

Excitement filled the village on the first morning of that year's buck season. Only a handful of alarm clocks needed to ring, for everyone was up and ready long before daylight. The sun's first rays found the village deserted of any and all males of gun-toting age on that morning of mornings.

With the minute hand of many a grandfather's pocket watch safely past the legal starting time, the antlered species of the surrounding countryside became fair game. However, the sentiment running high among the villagers was to let anything smaller than last season's trophy deer go by, for the first day at least. And for the most part, go by they did. Only three

successful hunters returned from the mountain that night.

The next day was not a parallel with the first, as close to half the families had deer steaks for dinner that night. The hunters who as yet had not scored still hoped that before the end of the season they would come face to face with Tenderfoot.

The last day of the season found the surrounding woodlands still being combed by the unsuccessful hunters of the village. It turned out an eventful day for four of them, as each bagged a small buck. And the residents were shocked to learn that one of these was Tenderfoot. The distinctive arrow scar on his leg was found, well healed over, during the skinning of that deer. The monarch of the forest had been removed from his throne only after exhaustive hunting pressure—and by mistake, you might say. It was ironic, too, that during the years he had escaped the hunter's skillet he had sported amazing antlers, but the season he met defeat he had but a small forkhorn rack.

The smartest deer in the forest sporting only a Y.

Trophy or Spike . . .

The old man thought about Tenderfoot every time he picked up his rifle and headed for the woods. Of the dozen deer to his credit, only one had a rack of better than four points. He had never considered himself a trophy hunter, nor did he ever hope to be. The old man had always considered himself more than fortunate that his subsistence did not depend on whether he scored in any particular season. But even in light of this he did not feel justified in devoting his hunting energies to the pursuit of only deer with outstanding racks. This did not mean he would pass up a trophy. If the first deer to appear in his sights was a 10-pointer he would unhesitatingly take him. By the same token he would take a spike or a Y if offered.

The old man considered all these points the night before opening day

this year. And again he realized that a 4-pointer could well be more tricky, more alert, and more cautious than an 8-pointer which might be coming along behind the smaller buck. The old man had wrestled with his longtime attitude of taking the first buck seen, no matter what size rack he sported, instead of waiting for a larger one. This year greed, vanity or whatever overpowered him and for once in his life he set a goal: 8 points or better. This year he would disregard his father's adage. This year would be different, thought the old man. This year his friends would not be able to kid him because of the "puny" deer he consistently pulled from the woods.

Fooling Himself?

But sitting alone in the woods, the old man began wondering if he was only fooling himself. In all probability he would not even let a spike go by without earnestly trying for it, let alone possibly a 4- or 6-pointer.

The thoughts filled the old man with contempt for himself. Why couldn't he pass up a spike? Other men he knew had done it and afterward had been rewarded by a nice whitetail. He felt he too had that much will power, if not more.

He reaffirmed himself. He would wait out his 8-pointer.

But the hours passed uneventfully until in late afternoon the old man cautiously rose from his seat beside a lightning-struck pine. As he did so, he glanced to his right, partly from habit and partly from instinct. What he saw was more than usually met his eye when he scrutinized the area.

There, standing behind a clump of scrub oak, was a small 4-pointer.

The old man stood motionless, his stomach churning. Never before had a deer given him such butterflies. In those brief seconds a thousand thoughts rushed through his mind. Would he be doomed to small deer for the rest of his life? If he did not take this buck would he get another chance at a whitetail, perhaps his

8-pointer? Did he deserve more than a 4?

The old man, mentally exhausted from his ordeal of choice, silently stooped behind the pine tree and briefly rested. The deer, still unaware of his presence, continued browsing until his form became indistinct among the lengthening shadows. The old man closed his eyes and leaned silently against the broken trunk of the once majestic pine tree. He had made his choice.

When he again opened his eyes it was darker. He did not know how long he had been asleep but from the shadows judged it to be about 10 minutes. He stood up. What he saw made him think he was still asleep and that all this was a dream. Before him stood a deer, a tremendous deer, with antlers, tremendous antlers, that seemed to flash brilliance in the dimness of the forest. The old man felt the rush of blood from his limbs to his head. "This must be a dream," he whispered. But his dream soon flashed



THERE, STANDING behind a clump of scrub oak, was a small 4-pointer. Would he be doomed to small deer for the rest of his life?

its white tail and began to move away, not quickly but steadily. The old man despite his daze, raised his rifle to his shoulder, took aim, and shot.

A 12-Point Buck

After long moments of disbelief, he ran to the downed deer, his gaze never leaving the large rack. Even when he ran his hands over it, felt its hard reality, he could not believe his luck. Eventually, he remembered that he had to fill out the tag to attach to his kill, but even as he did so he kept one eye on the buck, as if he still expected it to make a mad dash for freedom. With the tag tied on, he retreated a few feet to the base of an old oak and, squatting against it, studied the deer's antlers at a distance, as if to get a different perspective on them. Now, with each point counted and recounted, he looked down at his boots. Each had twelve eyelets. And his buck had the same number of points. One for each eyelet. One for every "untrophy" deer he had taken. The old

man smiled. He had won his victory.

Quickly field-dressing the deer, he attached a rope and began his long drag. Halfway to his car, the snow which had been threatening all day began to fall, blanketing the forest in white. He sat down to rest a few minutes, savoring the touch of snow on his face while he once again reviewed the story of Tenderfoot. Tenderfoot had died, but the motivations which caused men to pursue him in his greatness would always live, just as the motivations which cause men to pursue any deer of any size for sport will always live.

The old man thought of this and was glad that this year, the same as he had been in twelve other years, he had been part of the forces which made up all sportsmen. He would always remember this day, just as he had always remembered the day of his first deer. Thinking of the memories of the future, he smiled, then picked up the rope and began once more to drag out his buck.

Book Review . . .

Complete Guide to Hunting Across North America

That Byron Dalrymple is one of the country's top outdoor writers is well known—he publishes a hundred-plus articles a year. During the past year or so—in his spare time!—he put together this guide intended to give the 10 percent of our citizens who hunt the most detailed information yet assembled in one place on where-to-go-for-what in every state of the Union (except Hawaii), plus Canada. It's a monumental job. The states are grouped in geographical regions—Northeastern, Atlantic Coast, Appalachian (which includes Pennsylvania), Great Lakes, Central, Gulf Coast, Rocky Mountain, Pacific Coast, and Alaska and Canada. Within this framework, each state is covered individually. There is an overall picture of the hunting situation in the entire state, followed by specific data on each game species—big game, small game, waterfowl, predators, exotics—maps showing key hunting areas, comments on terrain and firearms suitable for various areas and species, general observations on game laws with sources for obtaining complete hunting regulations, license sales, success ratios, etc. A tremendous amount of work obviously went into this book. Most of us can benefit greatly from it. (*Complete Guide to Hunting Across North America*, by Byron Dalrymple, Harper & Row, 49 E. 33rd Street, New York City 10016, 1970, 848 pp., \$10.)



A. J. McMULLEN WITH HIS OSTHAUS portrait of Victor Okaw. The painting was done originally for a field-trial man from Philadelphia, early in this century.

Portrait of a Setter

By Kay and George Evans

BENEATH his normal calm, A. J. McMullen's voice over the long-distance line sounded excited: "We have Victor Okaw here in our dining room!"

Conversation between us and the McMullens, who are field trial setter breeders, is almost invariably about bird dogs and this was a special occasion. Mac McMullen was talking about the portrait of Victor Okaw painted by Edmund Osthaus for a Philadelphia field-trial man early in the century. Since we had "discovered" the painting in the West Virginia mountain town of Davis, we felt a part of Victor Okaw's coming back to Pennsylvania.

The English setter, Victor Okaw, was born in May, 1900, in Mexico, Mo.—Guthrie and Criswell breeders. While not 100 percent Llewellyn, he was line-bred to the famous Llewellyn setter Count Noble and carried Gladstone and other Llewellyn blood. His

sire, Lady's Count Gladstone, won the National Field Trial Championship the year Victor was born. Dr. N. P. Pautler of Waterloo, Ill., owned and campaigned Victor Okaw, who was handled by W. J. "Okaw" Wilson. His wins in important trials in 1904 were first place in the Nebraska Subscription Stake, second in the Nebraska All-Age, third in the Iowa All-Age, and second in the Illinois Independent All-Age. In 1905, he won third in the Nebraska Subscription Stake, after running in the 1905 National Championship Trial at Grand Junction, Tenn. Although Victor did not achieve the National Championship, he made his wins against top competition.

Shortly after his field trial career, Victor was purchased by Frank Reily, a Philadelphia glass manufacturer and sportsman who owned Eugene M, 1911 National Champion, and Cham-

pion Jersey Prince and a string of good dogs. Mr. Reily, who is credited with originating the term "dual-type setter," indicating a dog that can win on the bench as well as in the field, appears in an old photograph looking like Teddy Roosevelt and sitting on a rail fence with a pipe and a nice double, talking to three setters.

For Victor Okaw, these were obviously the mellow years. With his period of intense competition behind him, he became Frank Reily's favorite shooting dog. On a North Carolina quail shoot Victor was thought lost. At the end of the day they found him on point, stanchly holding his birds. Touched by this dedication to performance, Mr. Reily had the well-known bird dog painter Edmund H. Osthaus paint Victor on point in that setting as he described it to the artist. Mrs. Reily held Victor in the pose while Osthaus worked on sketches, doing the finished painting from these later in his studio, which was his custom.



MR. AND MRS. McMULLEN, Pennsylvania field-trial setter breeders, shown with two of their Milmac setters, now are proud owners of painting which depicts Victor Okaw.

It is safe to say that no painter but Edmund Osthaus could have so effectively done this portrait. At the peak of his career, he was in demand as a painter of fine pointers and setters. Born in Hildesheim, Germany, in 1858, he studied at the Art Academy in Dusseldorf and later with Christian Kroener, an animal painter. Osthaus came to the United States in the 1880s and was the director of the Toledo Academy of Fine Arts from 1886 until 1893. He resigned to spend his full time painting and shooting and attending field trials, which he did until 1928, when he died while on a shooting trip.

Canada to the Gulf

He gunned over his own setters and pointers from Canada to the Gulf of Mexico, shooting prairie chickens, ruffed grouse, woodcock, snipe, pheasants, and quail. Osthaus was a charter member of the National Field Trial Champion Association and judged trials and entered his dogs in many.

Edmund Osthaus's paintings are admired by countless men who know much more about bird dogs than about art—high praise, considering the difficulty of painting dogs. Many hunters have reproductions of his paintings hanging above their gun cabinets without knowing the artist's name. The most famous reproductions of Osthaus paintings were the series of National Field Trial Champions' portraits issued by Du Pont in the early 1900s. These color lithographs have become of keen interest to shooting men who collect prints. Our old grouse hunting friend Cliff Springer had one of these—the portrait of the 1898 National Champion Tony's Gale. It is in the photograph on page 15 of the July, 1969, *GAME NEWS* in the story "Man With a Gun."

Together with portraits of the field trial prima donnas, Osthaus painted portraits of many personal shooting dogs for sportsmen who could afford his work. The Toledo area, where he had his studio, is particularly rich in

Osthaus paintings—in private homes and public buildings.

A magnificent Osthaus hung for years in the Aldine Hotel in Philadelphia—a 6 x 16-foot painting of 10 setters belonging to S. Murray Mitchell. Osthaus also painted Paul Rainey with his pack of 50 hounds returning from a Texas wolf hunt, which Osthaus had shared.

Edmund Osthaus's portrait of the setter Count Noble hangs in the Duquesne Club of Pittsburgh. Count Noble has been a name to conjure with to Herbert Cahoon of Ben Avon, dean of field trial reporters held in affectionate esteem by Pennsylvania bird dog fanciers. In a recent letter to us he wrote:

"Count Noble was brought over to America at about one year of age from R. Purcell Llewellyn's kennels by David Sanborn of Baltimore, Mich. (not Maryland as so many erroneously thought). Capt. B. F. Wilson of Glen Osborne, Pa., and Dave Sanborn were good friends and after Dave's death, Capt. Wilson took over Count Noble and put him in stud and the story is, the money this brought was turned over to the Sanborn family and helped to educate a daughter into a very accomplished pianist. Count Noble was owned five miles down the road from where I lived. He was not the first Llewellyn setter ever imported from England (as some men have said) as Petrel was a Llewellyn and she came over in whelp and Gladstone was one of her pups and he was about three years older than Count Noble. I am sure also that at least three or four other Llewellyns beat the great Count Noble to these shores. Count Noble is mounted and on display, pointing a covey of quail, in the Carnegie Museum in Pittsburgh."

We had discovered the portrait of Victor Okaw in Davis, W. Va., while on a shooting trip, word reaching us the way things get around among bird dog people. Following the clue, we visited the home of Mrs. J. R. Moon, Jr., and were delighted to find that the



AN OSTHAUS PORTRAIT of a brace of setters, family shooting dogs, that hangs in the Chevy Chase home of friends of the author. Osthaus gunned over these dogs in years past.

portrait had been painted by Edmund Osthaus.

Woodcock and Quail

Mrs. Moon's husband and his father were from Camden and Cape May, N. J., where they owned the McCray Pharmacy. In the famous Cape May flight woodcock coverts they shot 'cock and also quail over good gun dogs. Both were officers of the English Setter Club of America, which ran its trials near Medford where Frank Reily had his kennels. As a member of the English Setter Club, Mr. Reily became a close friend of the Moons. After his death around 1928, the Osthaus portrait of Victor Okaw was given to the Moon family. When J. R. Moon, Jr., retired he took it in 1957 to Davis, W. Va., where Mrs. Moon's family, the Thompsons, had moved their timbering interests from north-central Pennsylvania to operate what in 1907 became the huge Babcock Lumber and Boom Company with two mills in Davis.

Near life-size, the Victor Okaw portrait is a splendid example of Edmund Osthaus's work. With his intimate knowledge of the early Llewellyn-type English setter in America, he captured

the intensity of the breed on point. With its characteristic Osthaus articulation of joint, its "Osthaus" cock of tail, the portrait seems more nearly a living setter than oil paint—yet it is definitely a painter's painting.

Back to Pennsylvania

When we heard that Mrs. Moon was regretfully offering the painting for sale—had actually made arrangements to ship it to the Kennedy Gallery in New York—we got in touch with a few sporting people who might be interested. The A. J. McMullens immediately drove to Davis, where the sale was consummated, and brought "Victor" back with them to their home on Woodcock Hill in Fayette County, in southwestern Pennsylvania.

Mac McMullen, to whom field trials are a religion and the dogs his saints, has together with his wife Mil developed the Milmac line of setters—among them Milmac's Ace, Milmac's Sir Galahad, Milmac's Blondie. He founded the Mason-Dixon Cover Dog Club in 1952; he has been an officer of the Venango Grouse Trial Club since 1947; he has run his setters in major grouse trials in New England, Michigan and Pennsylvania. Herbert Cahoon says that Mac McMullen has entered more setters in field trials than anyone in the East.

Osthaus paintings, always in demand among knowledgeable sportsmen who could indulge in them, are becoming increasingly highly prized. It is fitting that the portrait of Victor Okaw painted for a Philadelphia sportsman and field trial enthusiast should, after all these years, have come back to Pennsylvania to another field trial setter man—one whose sense of value is not measured by the price tag on such a painting but by what Osthaus caught of the character and integrity of those wonderful bird dogs during the early years of the century.

Victor Okaw has been around, in person and in oil paint, in many coverts and places where pointers and setters were appreciated. His setter soul may range wide reaches of some Happy Hunting with whichever was his favorite man — Dr. Pautler for whom he gave his best in trials, "Okaw" Wilson his handler, Frank Reily who loved him most of all his shooting dogs. But on the wall of Mil and Mac McMullen's dining room where Mac gazes upon him at every meal, Victor Okaw stanchly holds his bobwhites as on that late afternoon in North Carolina in the early 1900s. That much of Victor Okaw is back in Pennsylvania with the right kind of man for the right kind of dog. We can all feel a bit of pride in that.

Mammals Publication Popularity Continues

One of the Game Commission's most popular publications, *Mammals of Pennsylvania*, is still available to the public. The book, the only work of its kind, represents years of research by Game Commission personnel and compilation by authors J. Kenneth Doult, Caroline A. Heppenstall and John E. Guilday, all members of the Carnegie Museum staff. It is a publication nature lovers and outdoorsmen will not want to be without. The 281-page work is profusely illustrated with photos, drawings, graphs, etc. Information on measurements and weights, type of tracks, identification key, tooth formulae, skulls, breeding data, scientific names, etc., are included with the easy-to-read text. The book is available for \$2 delivered from any of the six field division offices of the Game Commission or from the Division of Information and Education, Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120.

Please— BEAR With Us!

By **Leo A. Luttringer**
and **Hayes T. Englert**

BACK IN 1931 the Game Commission was interested in observing and photographing hibernating bears, and all field men in bear country were advised to that effect. At that time Hayes T. Englert was District Game Protector for Potter County, with headquarters at Coudersport. One day he received a telephone call from Stephen Karhan of Germania, who said he had found a hibernating bear with cubs in a stump while trapping in the remote area of the upper branches of the right-hand fork of Young Womans Creek. These branches all lead along the Coudersport Pike, now known as Route 44.

It was necessary for Mr. Karhan to return to the area to tend his traps, so Englert arranged to meet him in Germania and accompany him. He wanted to obtain firsthand information on the discovery before reporting to his Division Supervisor, John B. Ross, at Lock Haven. Following is what Mr. Englert told me:



I met Karhan in Germania early in the day as we agreed, and in my Model A Ford we battled our way to within five miles of the bear den. In those years no attempt was made to keep the Coudersport Pike open during winter and you had to make your own tracks. Due to the heavy snows there was a limit to how far we could go with the Ford. When we reached this limit we snowshoed for the next five or six miles.

During our drive from Germania, Karhan filled me in on the details of how he discovered the bear. He stated that while prospecting for places to make sets for furbearing animals—foxes, skunks, mink, etc.—he happened onto a fresh wildcat track. This he followed for a mile or so, hoping to find where the cat had killed a deer, or at least the carcass of a deer killed illegally during the past season, in which area he could make a set for the cat. Traveling in the woods and brush with snowshoes slowed him



BLAIR DAVIS, JOHN ROSS, Leo Luttringer, Hayes Englert, Wallizer, and Chauncey Logue—all were involved in the long, cold 1931 trek for bear photos.

down, so he was able to keep a sharp lookout for the cat.

All of a sudden he heard sounds which reminded him of a beehive. Then he noticed that the cat tracks went directly to a large old white pine stump, and he saw where the cat had leaped onto its edge. But it was evidently scared and leaped about 15 feet from the stump, and then made many more leaps in its desire to get away from that stump.

Karhan was perplexed. He knew the whining sound was coming from the stump, but why the hurried get-away by the cat? Never dreaming of a hibernating bear with cubs, he cautiously approached the stump and peered in. He was face to face with the bear and two cubs! He was so scared he jumped almost as far as the wildcat had, and never went back for another look.

When we arrived at the stump I saw evidence that proved exactly what Karhan had told me. Both he and the bobcat had departed in a hurry. I noticed that the mother bear had hollowed out the large stump for her winter home to give birth to her cubs. The stump was entirely rimmed and had rotted only in the center, so there was no way to see what was inside until you looked over the rim. Then

you were only a foot or two away from the bear.

We spent half an hour taking pictures and listening to the whining cubs, then departed. Upon my return to headquarters at Coudersport, I made my report to Supervisor John B. Ross, who in turn relayed it to the Harrisburg office. Later Mr. Ross called me and said that Leo Luttringer, with camera and equipment, would make the trip to the bear den.

For the convenience of all concerned, we agreed to make Game Refuge No. 7 on the Coudersport Pike our headquarters. I was to pick up Chauncey Logue and Blair Davis and meet the rest of the party at North Bend, Clinton County, which is at the mouth of Young Womans Creek. The party would then proceed up the creek to the Benson Road and on to No. 7 Refuge headquarters. Walizer was the Refuge Keeper.

Luttringer arrived by train and was met by Supervisor Ross and Game Protector Hardin Gustin. They proceeded to North Bend, where we met about midafternoon as planned. The winter was a particularly hard one with lots of snow. When we met it was snowing hard with lots of wind which worsened as the day wore on. The roads those days were nothing more than old logging roads and by

Leo A. Luttringer was the first editor of GAME NEWS, a position he held until late 1949, when he became chief of the Game Commission's Conservation Education Division. He retired in 1961 and died in March, 1970, shortly after submitting this article, which is believed to be the last thing he wrote for publication.

Hayes T. Englert, co-author, is now retired after almost 41 years with the Game Commission. He lives in Harrisburg.

We feel certain readers will be interested in this firsthand account of a long-ago winter trek for bear photos in northern Pennsylvania.

the time we reached the top of the mountain on the old Benson Road it had become dark and a full-scale blizzard was raging.

Breaking tire chains gave us a lot of trouble. We repaired them with baling wire. (Baling wire was standard equipment in those days for anyone who drove cars in those remote areas.) However, our supply of wire became exhausted, and when we were hopelessly stuck with nothing to make further repairs, we had to abandon our two autos, buckle on the snowshoes and head for No. 7 five or six miles away. There was no letup by the blizzard, and that trip will be remembered for a long time. To those in the party who were hardened to the use of snowshoes it was a real tough trip. And for those who weren't it must have been pure agony.

Late in the evening we made it to Walizer's, where they had been waiting with supper since six o'clock. Warm fires and full stomachs soon had us feeling fine—that is, all except Leo Luttringer whose legs had been badly galled. He soon decided to call it a day and went upstairs to bed. The rest of us sat around the fire swapping yarns—mostly lies as I recall.

Upstairs, Leo was in real misery and, unbeknown to us, Walizer was

attempting to administer relief. Suddenly, we were brought to our feet by the most bloodcurdling yells imaginable from upstairs. Walizer, in his desire to give Leo some relief from his galled legs, applied a liberal quantity of Pain King liniment to the galled areas. This was similar to being burned alive at the stake. After we found out what happened, someone grabbed the water bucket and raced out to the pump for cold water, which was doused liberally on the affected areas.

More Baling Wire

Early the next morning, with a fresh supply of baling wire to repair the chains, some of the party snowshoed back to the abandoned autos, repaired the chains, and made it back to headquarters. The rest of the party was picked up and we were able to drive our cars two miles to the Black Forest Club. The roads from there were hopelessly drifted, so with camera and equipment we again buckled on the snowshoes and hiked five or six miles farther to the stump and hibernating bear.

After some observation and study of the bear and picture taking, the long trek back to the Black Forest Club was started. It soon became apparent that because of the galling the night

IN MARCH OF 1950, LUTTRINGER had the unusual opportunity to photograph this female bear with four cubs in Forest County.



before, plus the long trek to the bear stump, it would be too difficult for Leo to make the trip. We decided that a couple of the most hardy would go ahead and get the services of Bob Lupole, caretaker of the Black Forest Club, his team of mules and bobsleds. This was done, and you may be sure that team of mules and sleds was a wonderful sight to the rest of us when it made its appearance.

And so back to Harrisburg I went to send my film to the laboratory and to heal my galled legs which were painful for several weeks.

In retrospect I'd like to confirm all that Hayes Englert has said and to amplify a few points, namely that the trek up Young Womans Creek to the Refuge, after we were forced to abandon the cars, was truly an agonizing ordeal. For every one step forward we seemed to be blown two steps back. And my anointment with that "pain killing" liniment will never be forgotten. But, and I say this truthfully, in the thrill of seeing Mama

Bruin curled up inside that stump with her cubs, I temporarily forgot my acute misery and took picture after picture. She was in a half stupor and hardly raised her head. We stroked her back, even patted her head, but she barely moved. She appeared to be drugged. This was fine for me because, in addition to taking pictures, I was asked to record the animal's temperature, respiration and heart-beat. I tried repeatedly to slide my arm down between her and the inside of the stump in an effort to find her armpit, but it was hopeless and I had to give up. You know the rest of the story except one tragic thing.

When I did not hear anything from the film processing laboratory in Philadelphia after about two weeks, I became concerned and called them on the telephone. I was horrified to hear they never received the film. We did everything to trace it, to no avail. It turned out that about a year later someone in the laboratory found two cans on a windowsill and, unthinkingly, opened them. They contained my exposed film, which the light ruined.

Mother Bear and Four Cubs

As I write these last few paragraphs I am reminded of a big, genial black bear mother and four—*four*, mind you!—of the roliest-poliest cubs I have ever seen. It is unusual for a bear to have four cubs. They usually have two; sometimes three. We watched her at intervals all through March, 1950. She had not holed up to hibernate. Instead she made a shallow depression in the leaves beside a large fallen log.

A schoolteacher in a Forest County town and his two beagle hounds, out for an afternoon's tramp through the forest, almost walked onto her and her family in early March. Neither he nor the dogs waited to become better acquainted. He reported his find to Forest County Protector William R. Overturf, who in turn notified Mr. Englert, then a Division Supervisor, who in



SOMETIMES, OF COURSE, even a mama bear with four cubs gets bored with it all and needs a little time to herself, just to relax.

turn notified me. Eight hours and 220 miles later we were making our way silently through the deep snow to view a woodland wonder.

When I first saw her at a hundred feet, her head looked enormous. For the next several days Protector Overturf and I visited and photographed her and the cubs, but a dozen steps was the limit of her tolerance. She chased us on two occasions. She had a habit of leaving the youngsters and lumbering into the brush now and then, and at such times Bill and I would sneak in and snap closeups of the cubs. Once, while so engrossed, she heard us talking, a thoughtless act on our part, and if I had not seen her out of the corner of an eye, bearing down upon us soundlessly in the deep, soft snow, she would have caught us off guard and we might have been mauled. We wheeled and retreated, fast. When we looked over our shoulders from some distance away, she had slid to a quivering stop at the edge of the depression and stood there for a long time, shaking all over. Then she quieted down, stepped into her nest, and began to wash her babies.

A week later we watched her for five hours. Most of the time she dozed

lazily on a large, flat rock. The cubs played nearby. When one got unruly or misbehaved she would step down, pick it up by the scruff of the neck, shake it vigorously, then put it down again with an expression which seemed to say, "Now we'll have no more of that!"

The next hour and a half she nursed the youngsters under some hemlocks. We watched enthralled, but also disgusted because she had her back to us and we could catch only occasional glimpses of the little fellows.

We waited and waited, hoping she would change position. Finally, while we were trying to find a better observation point, a cracking twig frightened her. She stood up suddenly, leaving four astonished, yawning bundles of fur facing us. Then she moved slowly and deliberately into the brush, the youngsters dazedly following her on rubbery legs. We packed our duffel and despondently wended our way homeward. Later, Game Protector Overturf located the family again and other Commission personnel photographed her and the cubs for three more weeks—until mid-April—with excellent results. And on this good news I'll end my story.

Over 9000 More Acres for Public Hunting

The Pennsylvania Game Commission recently approved the purchase of an additional 9082 acres of land to be used for public hunting. Tracts will be purchased in the following counties: Berks, Blair, Cambria, Centre, Clearfield, Crawford, Erie, Greene, Lehigh, Mercer, Perry, Somerset, Venango, Warren and York.

Total cost of the acreage is \$483,687. Monies for the purchases will come from the Game Fund.

Three sizable tracts are included in the purchases. One, of 1200 acres, is located in Miller Township, Perry County, and will constitute a new State Game Lands. Another, of 2500 acres, is located in Burnside Township, Centre County, and Cooper Township, Clearfield County, and will become part of State Game Lands 100. The third, of 3467 acres, is located in Antis Township, Blair County, and Dean Township, Cambria County, and will become part of State Game Lands 108.



The Dean Observes a Diamond Anniversary

By John Crowe

IT WAS ALL very serious as the two youngsters planned their first grouse hunt.

It was also 1909.

That Friday evening as they walked home from school they talked over the problems.

First there was the matter of a gun. Jim (James E. Walsh) was proud and generous.

"My brother said we could take his gun. He has to work tomorrow. He's going to get a double-barreled Stevens. Then I can have his old gun for keeps. Tomorrow we'll take turns using it."

"His old gun" was an Elgin, an austere piece. Aside from the name Elgin, it had only one other legend, "Choke Bore," prominently stamped on top of the 30-inch barrel. But it would reach out for game, as the boys had learned on hunts for rabbits and squirrels. Now it was to be used for grouse — pheasants, the older hunters called them.

Second was the problem of shells. Ev (Everett E. Custer) was concerned. "You're supposed to have special shells for grouse. I don't have any."

Again Jim had the solution. "My brother gave me some. Ten. The kind you use for grouse. They're not good for rabbits or squirrels; not unless you're real close."

And so the hunt was arranged for that Saturday in 1909.

It was a cold November morning as the two boys walked along the Baltimore & Ohio tracks leading out of Johnstown, Pa. The tracks followed the valley of Stony Creek. Steep hillsides above were wooded with oak, occasionally broken by patches of hemlock, the whole overgrown with

wild grapevines. Only the energetic hunted there; it was a natural refuge. Grouse are found there today, more than 60 years later, although the city suburbs now extend for miles beyond.

The roughness of the hillsides did not discourage Jim and Ev. Grouse lived there. Besides, they could walk to the place without wasting much valuable hunting time.

They had drawn straws to see who would be the first to carry the gun. Ev had won. Jim was to act as dog, clambering through the thick places to flush the quarry into the open for a shot. By agreement, their roles were to be reversed each hour. Also by agreement, the hunting was to be limited to grouse. No valuable shell was to be spent on a squirrel or even a rabbit. And when the hunt was over, the grouse were to be divided equally, no matter who had shot them.

Grouse Uncooperative

Although the boys planned the hunt carefully, the grouse were uncooperative. The first one roared out of a patch of low hemlocks. Neither boy saw it, yet the flush was so close that they heard even the leaves disturbed as the bird beat low and away. The clatter of its wings faded into the distance.

The second allowed them to pass before flushing to the rear, out of range.

Seemingly each grouse had a new method of escape or a new ruse to make it a difficult target. Once or twice the boys talked of forsaking grouse in favor of less elusive game. But they had told their friends they were going grouse hunting; to return with rabbits or squirrels would be no distinction. To get a grouse was con-

sidered a sort of coming of age for a hunter. Besides, they had six of their "grouse shells" left.

About midafternoon they approached a clearing formed by a waste pile from an old coal mine. Ev was carrying the gun. He knew that sometimes a grouse would run ahead to the edge of cover, then flush into the open to turn one way or the other before diving back into shelter. He was a few yards short of the clearing when a grouse broke into the open, then swung uphill to the right.

Bird Disappears

Ev cocked the hammer, as he had practiced a hundred times, throwing the Elgin to his shoulder and shooting just as the bird disappeared from his view.

"Gee!" he apologized to Jim. "I should have hit that one."

But Jim was busy, too busy to talk. He had run to the edge of the spoil pile and started up along the edge.

"You did hit it! Come on—I saw it go down and start running."

No bird dog ever followed a downed bird more unerringly than Jim. The grouse had fallen at the edge of the clearing; nearby lay a pile of old overgrown mine timbers.

"I bet it went in there." Jim was peering under them. "There it is! I can see its tail."

By this time he was approaching the bird with his hand. He moved cautiously; then he clutched, coming up with a wildly beating prize. "Ev, you shot a grouse!" Jim was jubilant.

Ev dazedly looked at his prize. Then he held out the gun. "Now it's your turn."

But that was the day's bag. The boys still had five "grouse shells" as they walked slowly along the tracks back to Johnstown, now and then stopping to admire their trophy. When they arrived at Jim's house, there was the delicate question of how to keep their agreement to divide the bag 50-50. One grouse does not divide easily.

"We'll toss a coin," they decided.

Jim won. But Ev didn't mind. He had fired a shot that downed a grouse. That night he slept fitfully, as again and again in dreams he saw brown flashing wings over the end of the barrel of the Elgin shotgun.

It was all very serious as the two men planned the grouse hunt.

But now it was 1969.

Ev—Everett E. Custer—was again one of the two. But Jim—James E. Walsh—now resident in Pittsburgh, had given up the strenuous sport. But he still owned the Elgin shotgun inherited from his brother nearly 60 years before. His place had been taken by Don Hoffman, a young man, a protégé of the man who had become known as the dean of western Pennsylvania grouse hunters.

For more than half a century Everett Custer had hunted grouse with a singleness of purpose that had become a legend among his friends. A proposal to hunt ringnecks, or wild turkeys, or quail, or woodcock he would consider only if the season on grouse was closed. Or if the hunting was to be incidental to the pursuit of grouse.

For Ev the rich variety of Pennsylvania centered about what he considered the king of game birds, the ruffed grouse.

Once, with a companion and a good bird dog, Ev was hunting the flats of Tonoloway Creek, in Fulton County. At one place, ahead of the dog on point, an unusual flush occurred out of range—a covey of perhaps 15 quail and a lone grouse. The quail scattered over the brush-grown flat, promising a chance for good dog work and sporty shooting. The grouse went up a steep, rough hillside. Although at the time almost 70 years of age, Ev turned to follow the grouse.

"After we find it, we'll work on the quail," he said.

Twenty or 30 minutes later, a grouse was in Ev's hands. Glistening in the late autumn sunshine, the bird showed all the subdued yet striking colors of

its species—the dark ruff, the black-banded tail, the richly flecked body. Ev smoothed its feathers admiringly. “You know,” he said, “I don’t think I’m quite equal to climbing back down that hillside for the quail. Maybe there’s another grouse along this ridge, where we can stay on the level.”

And staying on the level was a central theme in plans for opening day of 1969. Ev smiled as he said, “Five years ago Dr. Huebner told me if I had to hunt grouse, to hunt on level ground. And you know that in Pennsylvania grouse and level ground just don’t go together. Now Old Doc’s laid down some more ground rules: Don’t hunt if it’s raining. Or more than an hour at a time. Or any at all if it’s real cold. Better still, quit hunting altogether. Maybe you’d better hunt with someone else opening day,” he added, wistfully.

But Don was enthusiastic.

“Look, Ev, I know a place south of McConnellsburg. Level—well, almost level. A Christmas tree plantation, with a swale along the lower edge. I’ll work the swale with the dog, and if we put up a grouse it’ll go for the pines. All you have to do is shoot.”

“You make it tempting. I hate to cramp your style, Don, but I’ll go.”

And so the plans were completed, this time in the law offices of Spence, Custer, Saylor, Wolfe & Rose.

But, as they had been 60 years before, the grouse were uncooperative. By the end of two hours on that opening Saturday morning, the hunters had not seen a bird, although they had heard three or four. The birds were wild, refusing to lie to the dog. Besides, the mid-October foliage was still heavy, noisy in a gusty wind.

Ev, walking slowly along the edge

of the swale, could see Don and the dog working down below him. Then he heard a sudden, “Look out!” as a grouse towered out and swung toward the pines. It was an almost impossible chance, but Ev took it as the bird disappeared into the thick plantation.

“Good shot,” Don yelled.

“No. I think I missed ’im.”

“No, you didn’t. He tumbled just as he turned between these rows.” Don indicated two rows of the plantation. “Let me get the dog over here.”

The dog worked off into the pines. Apparently the grouse had run after hitting the ground.

“I’ll buy that dog a steak if he finds that bird,” Ev said, thoughtfully. “It’s almost as important as the first one I ever shot—60 years ago,” he added.

“Don’t worry,” Don assured him. “He’ll be back with your bird in a minute or two.”

The dog was back in a minute or two, but without the bird. Don was urging him back to hunting when another dog, one of most uncertain ancestry, appeared. With him was a teen-aged boy, pushing his way through the thick pines.

Over his left arm the boy carried a single-barreled shotgun. In his right hand he held a grouse.

“Did you ’uns shoot this bird?” he asked. “My dog caught it. He’s an awful good bird dog,” he added proudly.

Ev smiled, clearing his throat before he spoke. “Well, then, he’s your bird.”

“No, I heard you shoot,” said the youngster. “I already got one, myself, and if I take this I’ll have to quit hunting grouse for today. Then, I’d have to hunt squirrel, and I think grouse are more fun.”

Ev, inquiring, learned that the youngster lived on the next farm. Carefully writing down his name and address, Ev thanked him again and shook hands. As the boy and his dog resumed hunting, Ev turned to Don. “You know, I hope that 60 years from now there are kids like that in Pennsylvania, and grouse for them to hunt.”

Give

GAME NEWS

To a Friend . . .

Evaluation of Game-Farm and Wild-Trapped Turkeys in Pennsylvania

By Gerald A. Wunz
PGC Wildlife Biologist

THE Pennsylvania Game Commission was one of the first state conservation agencies to achieve significant success in wild turkey restoration. Good law enforcement and an aroused and cooperative public were credited with saving the relic turkey population from complete extirpation in its southcentral Pennsylvania retreat during the early 1900s. In the 1940s and 1950s, the phenomenal spread of eastern wild turkeys (*Meleagris gallopavo silvestris*) across the northcentral part of the Commonwealth was current with, and attributed to, an ambitious stocking program of artificially propagated turkeys (Latham 1956, Roberts 1959).

From 1915 through 1969, over 150,000 game-farm turkeys were released by the Pennsylvania Game Commission. Over the years the program was gradually increased and, by 1950, approximately 6000 turkeys were being stocked annually. About 3000 of these birds were liberated in the fall before the hunting season. These were mostly juvenile toms conditioned in large enclosures called hardening pens for two months prior to liberation. Approximately 2500 turkeys, predominantly hens, were released in late winter as breeding stock. The remaining 500 hens were stocked after producing their annual egg quota for the game farm's incubators.

After the initial surge of the turkey population and the range expansion across northern Pennsylvania, problem areas began to develop, especially in the old southcentral range. Populations dwindled to small scattered flocks or completely disappeared (Roberts 1957). Repeated and massive infusions of game-farm stock that appeared successful in northern Pennsylvania failed to remedy, and in some cases seemed to worsen, the situation. Growing suspicious that game-farm birds were not the restoration panacea prompted this evaluation (Wunz 1962).

Harvey A. Roberts served as project leader

from 1951 to 1959. Robert L. Snyder and Burd S. McGinnes were also assigned for two short interim periods. The writer has served as project leader since 1959 and Arnold H. Hayden as assistant since 1961. The assistance of Harvey A. Roberts in reviewing this manuscript and that of the many Pennsylvania Game Commission field employees who contributed to this study are appreciated.

Methods

The objective of this investigation, conducted from 1951 to 1967, was to evaluate stocking of both game-farm and wild-trapped birds as methods for establishing and maintaining turkey populations in Pennsylvania. It involved banding of 10,590 game-farm turkeys stocked throughout the state at various times of the year and intensive follow-up studies of releases of game-farm and wild-trapped birds on nine study areas, ranging in size from 25 to 275 square miles each.

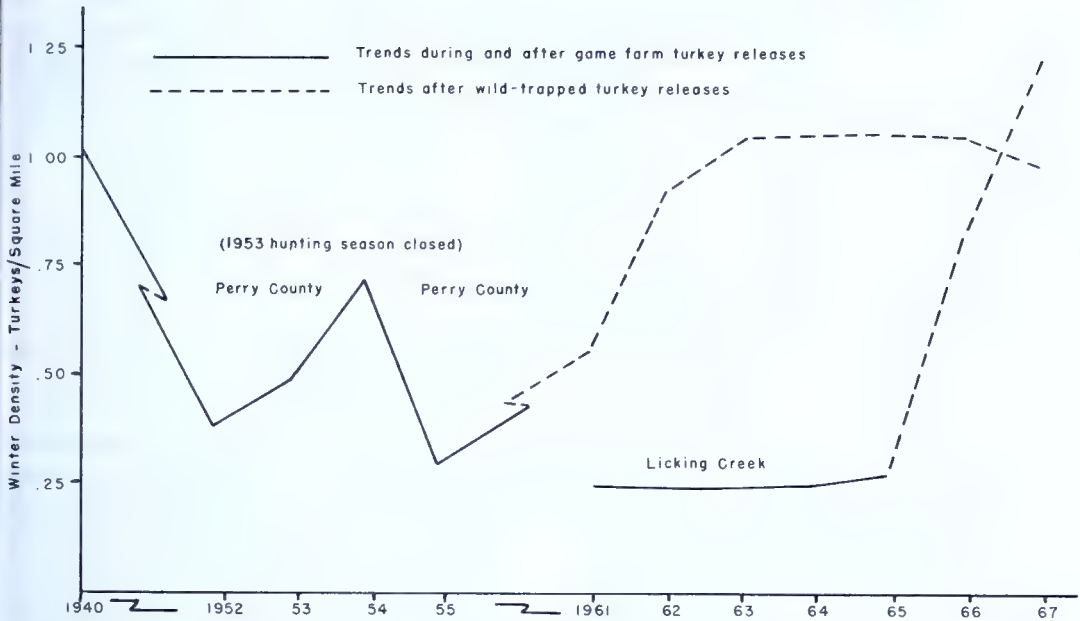
Perry County, in its entirety, was selected as the initial study area in 1951, because it exemplified the problem areas in the old southcentral turkey range where flocks had dwindled. Early phases of study involved inventory of the existing turkey population and the subsequent evaluation of attempts to restore it with game-farm stock. The mass banding of game-farm turkeys was initiated in 1958.

From 1960 to 1965, wild turkeys were trapped from thriving populations in northcentral Pennsylvania and stocked in Perry County and on eight smaller study units. Four units, representing problem areas, were in the oak forests of the Ridge and Valley province in the original southcentral range. The remainder, located in unoccupied range of the Allegheny Mountain region of southwest Pennsylvania and on the Glaciated Allegheny Plateau of northwest and northeast sections, were forested with northern hardwoods or transitions of this type with oaks.

The population responses to releases of

This paper is a contribution from Pennsylvania Federal Aid Project W-46-R.

Figure 1



game-farm or wild-trapped turkeys on these areas were measured by interviews, spring gobbling counts, summer baiting and brood counts, and by track counts in the snow. The winter track census was the most reliable method under Pennsylvania conditions.

Results

Band Recoveries From Game-Farm Turkeys

Banding the various seasonal releases of game-farm turkeys showed that the greatest percentage of returns (12.8 percent) were from birds liberated just before the fall hunting season; and the least percentage of returns (2.2 percent) were from poults stocked in midsummer (Table 1). Apparently, birds from winter releases survived longest; their long-term band returns (beyond one hunting season) outnumbered those from the spent breeders put out in May by 4:1 and those from the fall stocking by 2:1. No bands were recovered after the first hunting season from poults released in summer.

Nearly 98 percent of the bands recovered were returned before or during the first hunting season after release. Only 23 bands, representing 0.2 percent of 10,590 birds, were recovered after this period. Six of the 23 returns were from birds surviving beyond two hunting seasons. This paucity of long-term band recoveries indicated a short survival period for game-farm turkeys.

Factors Influencing Band Returns From Game-Farm Turkeys

The major factors (in addition to survival of the birds) that influenced band return rates were: time of stocking, physical condition of the birds, and hunter cooperation in reporting bands.

As noted above (Tables 1 and 2) the greatest percentage of band recoveries of game-farm turkeys were from birds released just prior to the fall hunting season. On a relative basis, twice as many banded birds were harvested when stocking was within 10 days of opening day as when a month had elapsed. Band returns became progressively fewer as the time span increased.

The influence of the physical quality of game-farm stock on band returns was vividly portrayed during 1963, when turkeys parasitized by gapeworms (*Syngamus trachea*) were noted in one field division's hardening pen. Subsequently 3.7 percent of the birds from this pen died during transport to release sites and only 7.5 percent were reported harvested. Turkeys from another field division, where none of these internal parasites were evident among the birds in the enclosure, showed a loss of 0.6 percent in transit and return of 13.7 percent from hunters.

Hunter apathy can be the most important single factor influencing band returns. Based upon the greater percentage of returns generated through periodic intensive field checks

TABLE 1

Band returns from game-farm turkeys released in Pennsylvania, 1955-1966

<i>Release Period</i>	<i>Number Banded</i>	<i>Percent of Bands Returned</i>	<i>Percent Returns from Turkeys Surviving Beyond One Hunting Season</i>
Winter	2,177 ¹	4.5	0.4
Spring	1,183 ²	3.5	0.1
Summer	369 ³	2.2	0.0
Fall	6,861 ⁴	12.8	0.2
Total	10,590	9.7	0.2

¹ Mostly hens released as breeding stock.² Hens released as "spent breeders."³ Poult.⁴ Mostly juvenile males released prior to the fall hunting season.

of hunters and greater publicity given to some releases of banded turkeys, it was found that only about half of the gunners who bag marked birds regularly submit bands. On this basis, hunter harvest of the game-farm turkeys was double the band return indicated in Table 1. Thus, the average harvest of game-farm turkeys released in the fall was nearly 25 percent. On some heavily hunted and limited ranges, nearly half of the game-farm birds stocked immediately before the season were harvested.

Behavior of Released Game-Farm Turkeys

Post-release behavior of game-farm turkeys usually followed a standard pattern. They remained near the release sites for a week or longer, calling frequently and appearing to be in a state of unrest; aimless wandering, sometimes to considerable distances, followed. Extreme movements of up to 40 miles were recorded. They seemed to prefer roads and cleared rights-of-way for their travels. Some game-farm birds established home ranges near farmsteads or rural communities.

The conduct of one flock of 30 marked birds, part of a large midwinter liberation in a remote mountain study area, was typical. This flock remained near a feeding station for two months before starting a 20-mile trek down a rural road and across open farmland. During the flock's one-week journey, when the turkeys were observed frequently, there was a loss of five birds. By spring, this flock had decreased to 21 individuals and there was still no noticeable increase in the wildness of the birds.

Neither the ages of the game-farm birds when released nor their conditioning prior to release appeared significantly to influence

wildness. Although artificially propagated turkeys seemed to exhibit their greatest degree of wildness at approximately eight weeks of age, after two months in the wild some poult permitted humans to approach within six feet before showing alarm. Even birds conditioned in forested hardening pens failed to show significantly greater wildness than those taken directly from the game-farm rearing fields.

Reproductive Success and Poult Survival of Game-Farm Turkeys

Observations of identifiable game-farm birds in various sections of the state revealed that reproduction by these turkeys was comparatively poor. Results from one study in Perry County, which involved a release of 109 color-banded game-farm turkeys in the spring of 1956, showed that their broods averaged 2.5 poults less than those of resident stock. Although the number of newly liberated turkeys equaled the resident breeding population, and broods of game-farm origin were more easily and frequently seen than those of wild hens, only 28 percent of the total number of broods observed were accompanied by marked game-farm hens.

Intensive follow-up studies of poult survival during a three-year period in Perry County showed that the eventual reproductive success by game-farm turkeys was even less than the foregoing indicated. As shown in Table 3, an over-the-summer loss of eight poults per brood occurred in 1953 after an outbreak of blackhead (*Histomonas meleagridis*) that was probably introduced through spring liberation. In 1954, when no game-farm turkeys were released during the spring, no disease-induced mortality was reported. Although brood size was small, poult losses through the summer were nor-

TABLE 2

Percentage of game-farm turkeys reported shot in relation to the number of days the turkeys were released prior to the opening date of the fall hunting season

<i>Time of Release Before Fall Hunting Season (Days)</i>	<i>Number Released</i>	<i>Percent Reported Shot</i>
0- 10 ¹	1208	16.6
11- 20 ¹	2529	12.7
21- 30 ¹	1256	12.3
31- 40 ¹	1528	8.2
41- 60 ¹	340	7.4
61-120 ¹	369	1.9
121-365	3360 (adults)	2.5

¹ Mostly juvenile males.

mal. A high loss of six poults per brood was recorded in 1955, when liberations of game-farm birds resumed.

Mortality data for poults hatched by game-farm hens were substantiated by other evidence of poor reproductive success in Perry County. In 1952, a mass release of 261 game-farm hens was made in the spring, followed by a fall liberation of 60 additional birds. The estimated fall population, including native stock, was 11 birds less than the 321 liberated. During the other years of the 10-year study of game-farm bird stocking in Perry County, autumn turkey populations were seldom much greater than the number released each year. Even closed hunting seasons for two years failed to improve densities that averaged less than one turkey per square mile in the fall.

Game-Farm Turkey Mortality

Necropsies showed that blackhead was responsible for excessive mortalities among adults, as well as their poults, shortly after they were released in Perry County during 1953.

There were indications that predators caused losses among the progeny of newly liberated game-farm turkeys. In view of the relatively tame behavior displayed by this stock, it was surprising that predation was not more severe among the adults. The turkey's size, which apparently discouraged most wild animal predators, attracted poachers. The tendency for game-farm stock to trust man made them highly susceptible to illegal hunting. The relative impacts of poaching and predation were impossible to measure.

The lack of fear of man and his activities was reflected in abnormally high accident

rates. Most mortalities caused by automobiles and hay mowing were traced to birds of game-farm origin. Open-field nesting, common where large numbers of game-farm turkeys were released, rarely occurred among the wild populations of northcentral Pennsylvania, where comparatively few game-farm turkeys had been stocked.

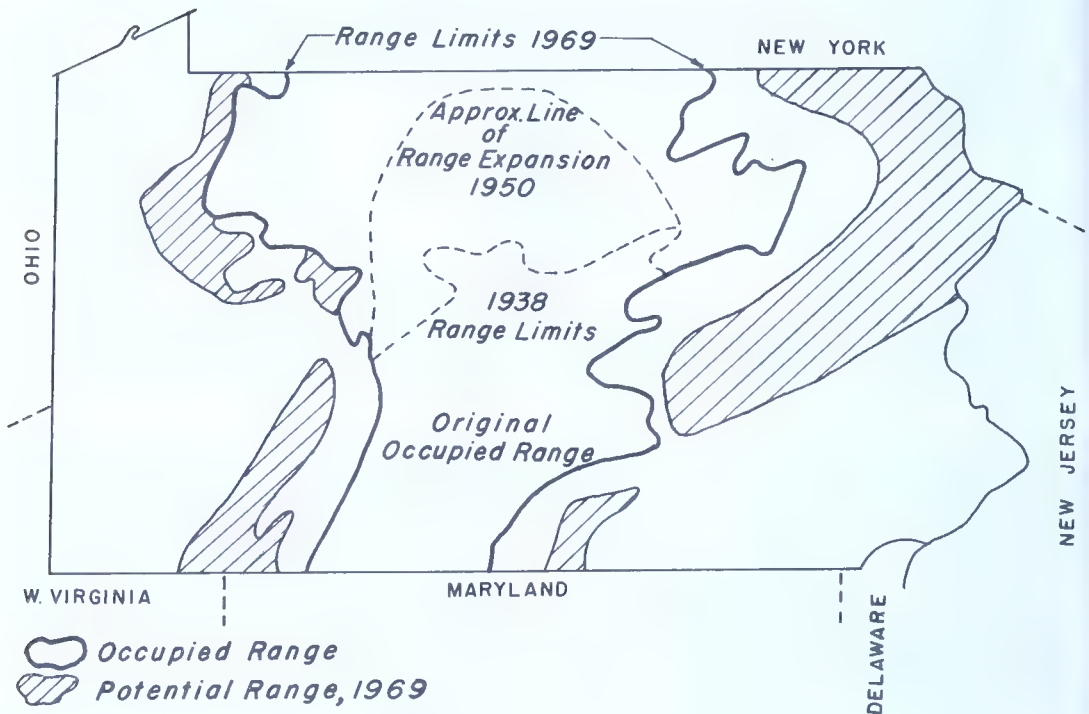
Trapping and Transferring Wild Stock

During the study of reestablishment attempts with game-farm turkeys, the companion study involving wild-trapped stock was started in 1956. Large winter concentrations of native birds at artificial feeding stations in northcentral Pennsylvania at first seemed to offer an easily obtained supply of turkeys for experimental restocking; but initial efforts to catch these birds were largely unsuccessful due to their wariness. They proved reluctant to enter drop-door traps even when constructed of fine nylon gill netting. Not until the more easily camouflaged cannon nets were used and summer trapping was initiated in 1960 were significant numbers captured. Subsequently, 75 to 100 turkeys were trapped and transferred annually through a winter and summer trapping program. By April, 1965, a total of 434 trapped turkeys had been transferred to nine study areas.

Comparative Costs

The average expense for each turkey trapped and transferred was \$36.88 during summer and \$43.41 during winter operations. Biologists' salaries, accounting for 60 percent of the trapping expense, and the experimental nature of the program inflated costs above those of an experienced and adequately equipped trapping crew.

Figure 2—Pennsylvania's Turkey Range Expansion



The minimum cost for raising each game-farm bird to 20 weeks of age for fall release was \$10. Birds held over winter for spring release cost at least \$18 each. These costs were based on the annual operating budget and do not include annual amortization of the game farm and of the hardening pens.

Turkeys were trapped and transferred for only \$20.63 each during one winter of the research study, indicating that an efficient trapping program was competitive with production costs at the game farm. This comparison of costs does not include the relative merits of the two types of stock.

Comparative Survival

The band recovery rate from trapped and transplanted turkeys was 17.3 percent for summer releases and 9.8 percent for winter liberations. The recovery rates indicated that survival beyond the first hunting season was similar for both groups: 2.5 percent and 2.7 percent for summer and winter releases, respectively.

Band recoveries of game-farm and wild birds showed that survival of wild birds was appreciably greater than survival of game-farm turkeys (Table 4). Even more significant were the differences in longevity (indicated by band returns beyond one hunt-

ing season) between the two types of stock. For winter liberations, the long-term band recoveries were nine times greater for wild birds than for game-farm turkeys. For summer releases, long-term returns for wild birds were 15 times greater. Evidence of mortality among transplanted wild stock, other than from hunting, was negligible.

Relative Behavior

After being transferred to new territory, game-farm birds were frequently observed, but wild birds were seldom seen and it was suspected that they had not survived or had left the area. Observations following releases of both types of stock in the Licking Creek study area demonstrated these behavioral differences. After the liberation of game-farm birds there in 1962 and 1963, frequent reports of turkey sightings suggested that this stocking was successful. But winter track counts showed that there were few surviving birds and that they remained close to forest roads where they were easily and repeatedly seen.

Wild turkeys released on the same area in 1965 proved to be equally deceptive. Few broods were reported and a paucity of winter sightings suggested that this establishment attempt might have failed. A follow-up winter track census, however, showed a three-

TABLE 3

The relationship of game-farm turkey stocking to poult loss among broods in Perry County, 1953-1955

Month	Poults per Brood		
	1953 ¹ 64°	1954 ¹ 64°	1955 ¹ 79°
June	11.6	7.8	9.8
July	6.5	6.1	7.2
August	4.3	5.5	5.3
September	3.3	5.7	3.9

¹ Game-farm turkeys were released in 1953 and 1955, but not in 1954.

*Number of broods observed.

fold increase in the size of the population and revealed the reason for the scarcity of observations. The turkeys had shunned roadsides and other areas frequented by humans.

The scarcity of turkey sightings also indicated an establishment failure on another study area where only five wild-trapped hens were released. However, a track census in the snow after two breeding seasons showed that phenomenal reproduction had occurred.

Unlike game-farm birds, wild turkeys adapted readily to a new environment, with no apparent aimless wandering.

Results of the Turkey Releases on the Study Areas

Five of the nine study areas contained few or no resident turkeys before wild stock was liberated. The remaining four areas, located in the original southcentral range, supported low static populations of native turkeys and residuals from recent releases of pen-raised birds. Intensive studies of released game-farm birds had been conducted on the two largest areas, Perry County and Licking Creek, before wild-trapped turkeys were released. Prior to a population decline in the 1940s, both areas were noted for their excellent turkey hunting.

Perry County. During the period of 1951-1960, 1636 pen-raised turkeys were liberated and studied in Perry County's 275 square miles of turkey range. Despite an annual release rate that sometimes exceeded one game-farm turkey per square mile of range, no favorable population response was detected.

When it became obvious that stocking game-farm birds was not a remedy for this area's ailing turkey population, releases were terminated in 1960. Wild-trapped birds were then substituted and by 1962 a total of 235

turkeys had been transferred to Perry County. Since that time, survival, reproduction, and populations have increased without additional stocking.

Broods of the wild birds stocked in Perry County showed essentially no loss of poults during the summer and contained three poults per brood more than their game-farm counterparts (Table 5). After the introduction of wild stock, the overwintering turkey density in Perry County has more than doubled to equal the predecline density of 1940.

Licking Creek. The 110-square-mile Licking Creek Study area, because of its similarity and proximity to the Perry County area, served as an ideal control unit where game-farm turkey releases could be studied simultaneously with liberations of wild birds on the Perry County area. A total of 204 adult game-farm birds were released during the spring of 1962 and 1963, but the winter track censuses during and for two years after the last releases showed no increase in the low turkey population.

The failures of the turkey populations to respond favorably to releases of game-farm birds in Licking Creek and Perry County were repeated in other sections of Pennsylvania in which large numbers of game-farm birds were stocked in areas with low densities of native birds. Elsewhere in the state where fewer game-farm turkeys were stocked in relation to the population levels of native birds, the residual populations usually recovered soon after stocking was terminated. These recoveries suggested that mass releases of pen-raised turkeys may have "genetically overwhelmed," these low populations with inferior survival traits.

During the winter of 1965, 51 wild-trapped turkeys were stocked in Licking

TABLE 4

Band returns for wild-trapped and game-farm turkeys

<i>Time of Release</i>	<i>Type Stock</i>	<i>Percent Recovered</i>	<i>Percent Recovered Beyond First Hunting Season</i>	<i>Ratio of Long-Term Returns, Wild-Trapped to Game-Farm Stock</i>
Winter and Spring	Wild-trapped	9.8	2.7	9:1
Summer and Fall	Game-Farm	4.2	.3	
	Wild-trapped	17.3	2.5	15:1
	Game-Farm	12.3	.2	

Creek. The turkey density had tripled by the following winter and increased fourfold by the second year. Figure 1 graphically presents wild turkey population trends on both the Perry County and Licking Creek areas. Present (1969) estimates place the winter turkey densities of Perry County and Licking Creek at two to three turkeys per square mile.

Other Study Areas. Before receiving releases varying from six to 38 wild-trapped birds (Table 6), the remaining seven areas, each ranging from 25 to 50 square miles in size, also had histories of failures of game-farm stock to establish turkeys. Wild stock has established populations on four of these areas, on three of which the populations were spectacularly successful. The turkeys are at least holding their own on the remaining three areas where deficiencies in the habitat or the small numbers of birds released appear responsible for the relatively poor population response. None of the nine study areas was closed to turkey hunting during or following the releases of wild-trapped birds.

The necessity of using wild stock for turkey restoration was clearly shown by this study and by the experiences of other states

(Leopold 1944, Cantner 1955, Hardy 1959, Sickles 1959, Bailey 1963). Pennsylvania still maintains a turkey farm, but nearly all states have abandoned artificial propagation as expensive and ineffective for restoring turkeys.

There are exceptions—Wisconsin (Smith 1965), Michigan (Wilson and Lewis 1959), and the Catskill region of New York (Mason 1964)—where large releases of game-farm stock of Pennsylvania origin have established turkeys. But these are not like the vigorous, rapidly growing populations of Oklahoma (Jacobs 1964), Nebraska (Svetsugu and Menzel 1963), Montana (Eng 1959), Wyoming (Anon. 1947), and other states that started with a small number of wild-trapped birds and now have populations numbering in the thousands. Based on Pennsylvania's experience, it is doubtful if these populations derived from game-farm birds would survive without greatly restricted hunting and a sympathetic public. The Catskill flock has not reverted to a truly wild temperament after more than 10 generations in the wild and its population has decreased greatly even under controlled hunting (L. DeGraff & J. Whalen, personal communication, 1970).

(Continued on Page 43)

TABLE 5

Average number of poults per brood in Perry County, game-farm stock versus wild-trapped stock

	<i>Poults per Brood</i>	
	<i>Game-Farm Turkeys 1956-1960</i> 56*	<i>Wild-Trapped Turkeys 1961-1966</i> 54*
June observations	8.57	9.11
August observations	5.68	9.08
Totals	6.64	9.46

*Number of broods observed.

Financial Report for the Fiscal Year

July 1, 1969, to June 30, 1970

By John M. Smith, Comptroller

THE RESULTS of operations of the Pennsylvania Game Commission for the fiscal year ended June 30, 1970, are presented for your information.

Cash Receipts for the Fiscal Year

\$11,068,064

Best Year on Record

3% Increase Over Prior Fiscal Year

There are "earmarked funds" in the Game Fund as provided by the Game Law.

No less than \$1.25 from each resident hunter's license fee shall be spent for improving and maintaining natural wildlife habitat on land which is available for public hunting.

Revenue Increases in Sales of Hunters' Licenses Over Prior Fiscal Year

Resident 3%

Nonresident 14%

Archery 11%

The sum of \$1 from the sale of each resident and nonresident antlerless deer license shall be used for development and maintenance of deer food and cover on State Game Lands.

The Project 70 Fund, a \$5,000,000 Land Acquisition Project expiring December 31, 1970, shows approximately 16,000 acres of land acquired at a cost of \$4,200,834.60 as of June 30, 1970.

\$1,764 Daily Average Interest Received on Securities and Bank Deposits During the Fiscal Year

The Commonwealth has many controls and safeguards to insure accurate records and accounts and the judicious expenditures from the Game Fund. Under the provisions of Article IV, Section 402 of the Commonwealth's Fiscal Code, the Auditor General is



PGC Photo by Ralph Cady

required to audit the records and accounts of all Commonwealth Departments, Boards and Commissions at least once a year. Other controls imposed on State Departments are deemed adequate to control all financial transactions and budget matters.

The formal audit of the accounts of the Game Commission for the fiscal year ended June 30, 1970, has not been completed but the accounts are in good order and no problems are anticipated.

SCHEDULE I, PART I
PENNSYLVANIA GAME COMMISSION
STATEMENT OF REVENUE, EXPENDITURES AND CASH BALANCES
FISCAL YEAR JULY 1, 1969, TO JUNE 30, 1970

REVENUE		
Cash in State Treasury to Credit of "Game Fund" on July 1, 1969		\$ 8,751,938.62
Less: Unpaid Vouchers in Fiscal Offices as of June 30, 1969		88,570.31
Net Amount Available for Expenditures as of July 1, 1969		\$ 8,663,368.31
Receipts July 1, 1969, to June 30, 1970		
Resident Hunters' Licenses—Adult	\$4,508,671.24	
Resident Hunters' Licenses—Junior	452,012.30	
Nonresident Hunters' Licenses	2,552,987.18	
Antlerless Deer Licenses	383,603.55	
Archery Licenses	287,985.75	
Nonresident Trapping Licenses	475.85	
Special 3-Day Nonresident Regulated Shooting Grounds Licenses	5,703.50	
Special Game Permits	33,194.00	
Game Law Fines	265,038.75	
Interest on Deposits	36,560.38	
Interest on Securities	607,255.60	
Sale of Skins and Guns	6,156.46	
Sale of Unserviceable Property (Through Property and Supplies)	2,081.87	
Rental of State Property	65,698.66	
Sale of Wood Products	167,416.46	
Federal Aid for Wildlife Restoration and Recreation	1,152,440.95	
Sale of Publications	269,221.21	
Ground Rentals and Royalties from Gas Wells	45,695.88	
Miscellaneous	225,864.28	
Total Receipts from All Sources		\$11,068,063.87
Total Funds Available During Fiscal Year 1969-1970		\$19,731,432.18

SCHEDULE I, PART II

CLASSIFICATION OF EXPENDITURES BY ORGANIZATIONAL UNITS

Classification of Expenditures	Executive Accounting Administration	Information and Education	Propagation	Research	Law Enforcement	Training School	Land Management	Totals
Salaries	\$315,310.64	\$270,336.70	\$ 222,579.02	\$137,039.22	\$1,133,702.81	\$ 55,446.68	\$ 622,858.86	\$ 2,757,263.93
Wages	61,944.29	12,114.48	330,583.42	1,532.03	262,953.10	15,093.11	1,896,902.70	2,581,123.13
Employee Benefits	65,721.21	31,134.63	37,173.12	19,800.95	192,271.22	7,707.47	197,830.70	551,638.30
Professional and Special Services	78,870.69	64,496.64	275.90	8,239.48	2,974.23	47.19	63,508.97	218,403.10
Printing	4,431.96	272,156.30	200.92	781.46	27,461.18		35,070.13	340,101.95
Advertising	11,604.55						8,543.36	20,147.91
Postage and Freight	57,726.63	41,533.51	146.71	292.73	40.92	20.76	243.61	100,004.87
Communications	23,327.93	4,057.55	4,189.58	2,966.46	36,953.77	415.72	17,341.66	89,252.67
Travel	31,275.49	19,817.17	8,516.08	12,304.12	119,751.80	3,108.79	67,347.96	262,121.41
Utilities and Fuel	12,922.90	574.95	13,112.56		6,010.67	1,761.47	10,563.40	44,945.95
Memberships, Dues and Subscriptions	2,878.47	86.00	98.00	11.00	57.00	15.24	28.95	3,174.66
Insurance, Surety and Fidelity Bonds	9,235.32	685.76	983.58	201.76	8,550.93	75.66	5,266.23	24,999.24
Motorized Equipment, Supplies and Repairs	4,343.66	199.75	13,040.57	4,017.12	50,230.79	1,719.24	255,464.45	329,005.58
Contracted Maintenance and Repairs	10,791.88	3,393.30	16,734.93	42.00	30,739.00	2,158.27	47,619.56	111,468.94
Rent of Real Estate	6,281.21	378.00	148.00	60.00	32,797.00		6,416.00	46,080.21
Rent of Equipment	22,669.96	6.00	7,295.35	351.50	1,181.40	42.00	75,103.72	106,649.93
Materials and Supplies	44,595.32	66,189.78	281,705.24	6,877.93	54,292.76	8,801.71	286,817.09	749,279.83
Wearing Apparel	136.00				34,867.47		164.20	35,167.67
Motor Vehicles and Farm Equipment	12,508.16	23,634.17	52,205.76	2,236.98	219,031.23	5,697.09	464,827.96	780,141.35
Furniture and Fixtures	4,141.13	1,708.33	9,241.09	212.94	7,774.16		394.73	15,155.38
Purchase of Game			113,725.50	63.00				113,788.50
Land Acquisitions							1,361,293.43	1,361,293.43
Buildings and Structures	1,396.75						6,046.45	7,443.20
Non-Structural Improvements	9,072.90							9,072.90
Grants and Payments to Individuals					10,595.23			10,595.23
Grants to Institutions	2,000.00	9,000.00		29,760.00			3,000.00	43,760.00
Payments in Lieu of Taxes—Game Lands			615.80				213,563.79	214,179.59
Refunds	1,626.55							1,626.55
Total Expenditures by Game Commission	\$794,813.60	\$821,503.02	\$1,104,253.13	\$226,770.68	\$2,232,216.67	\$102,110.40	\$5,646,217.91	\$10,927,885.41

Plus: Expenditures by Other State Departments from Game Fund:

Department of Revenue—Printing Hunting Licenses, Tags, and Miscellaneous Forms (°)

\$ 172,331.89

TOTAL EXPENDITURES

\$11,100,217.30

Cash Balance June 30, 1970, Available for Expenditure During Fiscal Year 1970-71
Plus Unpaid Vouchers in Fiscal Offices as of June 30, 1970

\$ 8,631,214.88
85,629.27

Cash Balance in State Treasury to Credit of Game Fund at June 30, 1970 (Includes U. S. Treasury Notes in the amount of \$7,524,830.30)

\$ 8,716,844.15

(°) These items are paid from the "Game Fund" by other state departments and are included to present a complete picture of "Game Fund" expenditures.

(°°) The stated balance does not include a \$50 Advancement Account drawn on the "Game Fund" by the Department of Revenue.

SCHEDULE II
CONSOLIDATED STATEMENT OF FINANCIAL POSITION AS OF JUNE 30, 1970

Cash	\$1,192,013.85
Investments—U. S. Government Short-Term Securities	7,524,830.30
Total Cash and Investments	\$8,716,844.15
Less: Liabilities and Working Capital:	
Encumbrances—Game Commission	\$2,883,482.98
Encumbrances—Other State Departments	7,851.00
Reserve for Working Capital	3,000,000.00
Reserve for Fire Loss	300,000.00
Bills Remaining Unpaid in Treasury Department	
June 30, 1969	85,629.27
	6,276,963.25
Net Balance Available for Expenditure During Fiscal Year 1970-1971	\$2,439,880.90

EARMARKED FUNDS
RECEIPTS AND EXPENDITURES
ACT NO. 632, 1955
\$1.00 FUND

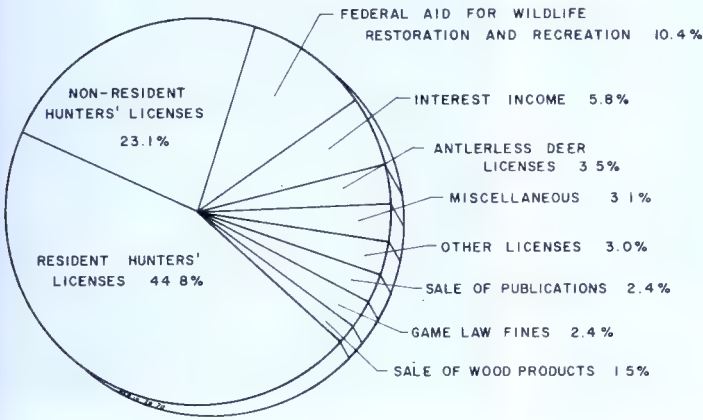
<i>License Year</i>	<i>Antlerless Deer Licenses Sold</i>	<i>Minimum to be Expended</i>	<i>Expenditures</i>	<i>Expended Fiscal Year Ended</i>	<i>Over (+) or Under (—) Minimum</i>
1957	334,683	\$334,683.00	\$104,218.85	1958	\$230,464.15—
1958	349,054	349,054.00	306,605.18	1959	42,448.82—
1959	369,409	369,409.00	370,647.80	1960	1,238.80+
1960	229,535	229,535.00	425,895.55	1961	196,360.55+
1961	210,840	210,840.00	361,196.19	1962	150,356.19+
1962	201,431	201,431.00	316,411.47	1963	114,980.47+
1963	204,068	204,068.00	305,583.16	1964	101,515.16+
1964	274,799	274,799.00	353,426.70	1965	78,627.70+
1965	261,283	261,283.00	311,111.10	1966	49,828.10+
1966	376,598	376,598.00	316,495.79	1967	60,102.21—
1967	444,913	444,913.00	615,295.16	1968	170,382.16+
1968	479,816	479,816.00	605,689.05	1969	125,873.05+
1969	383,329	383,329.00	649,189.79	1970	265,860.70+

RECEIPTS AND EXPENDITURES
ACT NO. 271, 1949
\$1.25 FUND

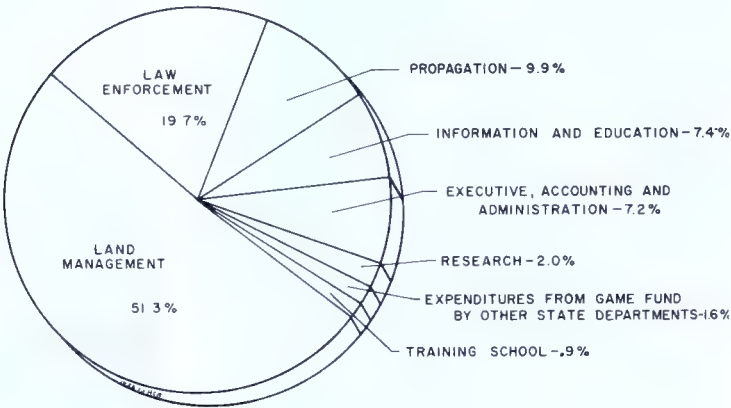
<i>License Year</i>	<i>Resident Licenses Sold</i>	<i>Minimum to be Expended</i>	<i>Expenditures</i>	<i>Expended Fiscal Year Ended</i>	<i>Over (+) or Under (—) Minimum</i>
1949	810,059	\$1,012,573.75	\$1,012,465.96 (A)	1950	\$ 107.79—
1950	801,948	1,002,435.00	1,266,856.18	1951	264,421.18+
1951	810,349	1,012,936.25	1,095,938.26	1952	83,002.01+
1952	830,147	1,037,683.75	1,163,287.09	1953	125,603.34+
1953	859,783	1,074,728.75	1,247,584.35	1954	172,855.60+
1954	869,286	1,086,607.50	1,215,543.03	1955	128,935.53+
1955	898,542	1,123,177.50	1,150,865.08	1956	27,687.58+
1956	902,540	1,128,175.00	1,280,927.58	1957	152,752.58+
1957	929,990	1,162,487.50	1,312,154.02	1958	149,666.52+
1958	943,340	1,179,175.00	1,261,098.24	1959	81,923.24+
1959	943,866	1,179,832.50	1,308,305.57	1960	128,473.07+
1960	949,365	1,186,706.25	1,894,854.64	1961	708,148.39+
1961	933,346	1,166,682.50	1,856,635.22	1962	689,952.72+
1962	926,976	1,158,720.00	1,599,871.34	1963	441,151.34+
1963	820,800	1,026,000.00	1,480,167.64	1964	454,167.64+
1964	868,972	1,086,215.00	1,630,906.74	1965	544,691.74+
1965	899,301	1,124,126.25	1,257,151.30	1966	133,025.05+
1966	931,239	1,164,048.75	1,677,374.98	1967	513,326.23+
1967	988,463	1,235,578.75	1,775,244.76	1968	550,244.76+
1968	1,028,568	1,256,250.00	1,817,643.41	1969	561,393.41+
1969	1,040,000 (B)	1,300,000.00	2,396,806.73	1970	1,096,806.73+

(A) Expenditures from September 1, 1949 (Effective date of Act), to May 31, 1950.
(B) Estimated License Sales.

GAME COMMISSION REVENUE \$ 11,068,063.87



GAME COMMISSION EXPENDITURES \$ 11,100,217.30



GAME COMMISSION REVENUE \$11,068,063.87

Resident Hunters Licenses	\$ 4,960,683.54
Nonresident Hunters' Licenses	2,552,987.18
Federal Aid for Wildlife Restoration and Recreation	1,152,440.95
Interest Income	643,815.98
Antlerless Deer Licenses	383,603.55
Miscellaneous	345,497.15
Other Licenses	327,359.10
Sale of Publications	269,221.21
Game Law Fines	265,038.75
Sale of Wood Products	167,416.46
TOTAL	\$11,068,063.87

GAME COMMISSION EXPENDITURES \$11,100,217.30

Land Management	\$ 5,696,659.49
Law Enforcement	2,181,775.09
Propagation	1,104,253.13
Information and Education	821,503.02
Executive, Accounting and Administration	794,813.60
Research	226,770.68
Training School	102,110.40
Expenditures from Game Fund by Other State Departments	172,331.89
TOTAL	\$11,100,217.30*

*Includes unpaid vouchers of \$85,629.27 in Treasury Department.



RONALD BAKER, above, of Jeannette, with his fine 8-point Indiana County whitetail.

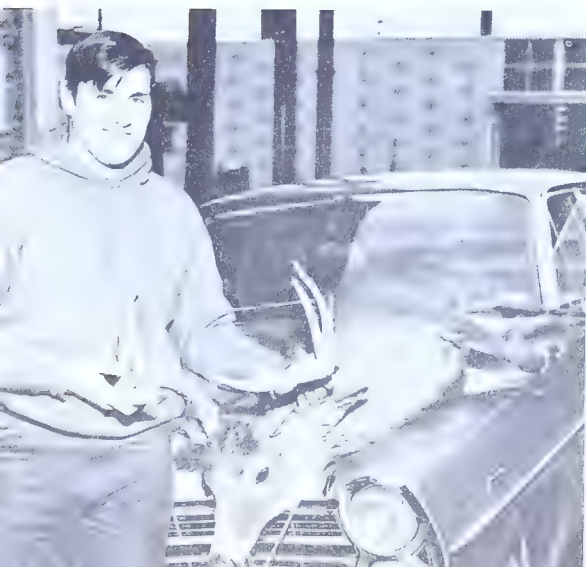


WADE WILSON, of McKeesport, and his nice 8-point buck taken in Clarion County.



BOB SULLENBERGER, left, shows his big 9-point from Westmoreland County. **Craig McHenry**, Nescopeck, bottom left, and his trophy taken near Jonestown. Below, **Ben Duke** and good 8-pointer bagged near Orangeville.

More Penn





DALE SMITH, above, of Red Lion, with 10-point taken in York County with bow during 1970 season.



JOSEPH SIVILICK, Berwick, with his two outstanding trophies. The 18-point buck was taken in 1933, the 11-point was bagged in 1967.

Whitetails

JEFF SHROYER, right, Millersville, shows unusual rack of his 8-point. Bottom right, Willis Beck, Wapwallopen, with heavy-antlered buck taken near his home.



BOB KIRSCHNER, McKeesport, below, with his excellent 12-point buck. Field-dressed, this deer weighed 215 lbs. and the rack scored 133 by Boone and Crockett system.





FIELD NOTES



Big Brother Is Watching

LUZERNE COUNTY—Butch Boyarski and Francis Knelly were sitting in a blind on the shoreline at Moosehead Lake. Francis decided to walk the shoreline and left his waders outside the blind. Butch, wearing his camouflage outfit, stayed in the blind. Soon, another hunter came by and saw the waders. He looked around, saw no one, and decided to take the waders along. As he walked away, Butch spoke up. The hunter was dumfounded. Apparently the blind and the camouflage clothing were over-effective, much to the strange hunter's embarrassment. — District Game Protector R. Nolf, Conyngham.

Safer This Way

BEDFORD COUNTY — Recently had a deer cross the Pennsylvania Turnpike near Everett. This is not too uncommon, but this deer did it by going under the "pike" through a 20-inch drain pipe.—District Game Protector T. Barney, Everett.

We're Proud of These

CUMBERLAND COUNTY—On the first day of general small game season we in the southcentral part of the state know how miserable the weather turned out to be—a cold rain that chilled a person right to the bone. We know that many able-bodied hunters resorted to riding the roads in hopes of seeing a ringneck step out of its wet cover. Two of my deputies reported incidents which warmed their hearts and would make some of these road hunters feel ashamed of their actions. Deputy Spidle checked a disabled hunter who must use crutches in order to walk hobbling around in this wet and nasty weather. This fellow had a permit for a disabled person to hunt from an automobile. Deputy Clark observed a hunter out in the field in a wheelchair. He couldn't walk. He was wet and muddy. This fellow was also eligible for a permit to hunt from an auto. But both were hunting. — District Game Protector J. F. Filkosky, Mechanicsburg.

Needs a Refresher Course

BLAIR COUNTY — A biology teacher at the Bellwood-Antis High School is having a hard time trying to explain to his students how to identify waterfowl. It seems that on the first day of the duck season this teacher—who shall be anonymous here—managed to shoot three decoys another hunter had placed in the river to attract ducks!—District Game Protector P. Miller, Bellwood.

Another Season

NORTHAMPTON COUNTY—The 1970 general small game season got under way with a pleasant day for hunting. Again the ring-necked pheasant appeared to be in very good supply, with many of these desirable game species being checked on the first day. Many father-and-son combinations were observed hunting and thoroughly enjoying themselves, and needless to say many youngsters harvested their first pheasants and were very proud so doing.—District Game Protector R. W. Anderson, Nazareth.

Something to Remember

BRADFORD COUNTY—A lady came up to me at the Troy Fair Exhibit and told me she fed the birds all year. She stated that she wasn't bothered with insects like her friends were. The birds took care of most of them.—District Game Protector A. Dean Rockwell, Sayre.

Should Get an "A," Phil

YORK COUNTY—A teacher was talking to her class recently in York and the subject of hunting came up. The teacher told her class the best color to wear in the woods is red. Philip Sweigart, son of Deputy Game Protector and Mrs. Michael W. Sweigart, was sitting in the class and immediately put his hand up into the air and told his teacher that was wrong. He said foxes are red so you should not wear red, you should wear fluorescent orange. The teacher was not convinced so Phil took a copy of the "Hunting Digest" in to his teacher to prove his point. Not bad for a four-year-old attending pre-kindergarten class.—District Game Protector G. J. Martin, York.

Hopefully . . .

BUTLER COUNTY—During a field trip with the fifth graders of Bruin Elementary School, the children became quite concerned over acid discharge from an abandoned mine which was polluting the stream below a beaver dam. Judging from the children's comments, we have nothing to fear from the coming generation. They seem more aware of their surroundings and are learning more about pollution of all types than any generation preceding them. Hopefully, there will be a beaver dam and wildflowers for kids to study and enjoy for years to come.—District Game Protector W. N. Weston, Boyers.



New Math/Philosophy

LUZERNE COUNTY—While checking on waterfowl hunters, I noticed one man doing a lot of shooting. After working my way to a position where I could see him and hear his conversation with his hunting buddy, I noticed two ducks come within shooting range of the hunter. He shot three times at the ducks, missing them, then calmly said to his buddy, "I missed again but the world is round, therefore, they should be back in about 20 minutes."—District Game Protector E. Gdosky, Dallas.



At Least It's Different

MERCER COUNTY — While on special assignment in Forest County, Deputy Hale and I were looking for a reported crippled deer, near East Hickory, when we spotted a young man, poking in a patch of brush. We were quite surprised when I asked him what he was hunting and he replied, "A monkey." We wished him good luck, although we felt our supply of monkeys in this area was down this year due to a bad winter, little reproduction, etc. . . . He then gave us all the facts, that this was a friend's pet monkey which had left their camp nearby.—District Game Protector J. A. Badger, Mercer.

Oooh!

ALLEGHENY COUNTY — The daughters of Mr. and Mrs. Stuart Savage of Wexford have a great interest in wildlife. One thing they do for wildlife now is raise young unprotected wildlife youngsters that I find in the course of my duties. The first time I went to their home, I saw an English sparrow flying around the kitchen, making himself quite at home. I asked what they called the bird and was really surprised when they told me its name was Sparrow T. Agnew.—District Game Protector R. B. Belding, Baden.

But Did They Have One?

WESTMORELAND COUNTY — When I delivered two deer to the Westmoreland County prison, three of the prisoners came to help me unload them. I had tied one on the deer rack with bale twine and, without thinking, asked the prisoners if one of them had a knife to cut the twine.—District Game Protector S. E. Lockerman, Murrysville.



Knock, Knock

LYCOMING COUNTY—Recently I received a letter from Robert P. Werley, Hamburg, relating an experience he and a group of Boy Scouts had at his camp near Trout Run. They went out spotlighting deer for a time and then returned to camp. Soon they heard a knock on the back door. Thinking he had locked one of the members out, he opened the door and there stood a bear looking at him. They chased the bear away five times. Before they chased it away for the last time at 6:30 a.m., he had eaten all their food that had been left in the ice box. The Boy Scouts had a trip they will remember for a long time to come, according to Mr. Werley.—District Game Protector P. A. Ranck, Williamsport.

Trouble Brewing

McKEAN COUNTY—While on patrol the first day of the 1970 turkey season, I was flagged down by a local farmer at 8:30 a.m. It seems that a flock of about 35 turkeys had been right at the edge of Route 155 at 8:00 a.m. and that many hunters going by stopped. By 8:20 many of the hunters were in the woods and some were shooting at the turkeys. The farmer who owns this land was angry and said that next year these hunters would have to hunt elsewhere as he is going to post his land. There were about 15 cars containing 35 or 40 hunters parked along the road and only four or five of the hunters had asked permission to hunt on his land. I went up the mountain and was able, with the assistance of a hunter, to apprehend two of the early shooters. This was the only hunter who would give any information as to who was shooting early. It seems to me that if the sportsmen are going to have any place to hunt other than state land they are going to have to police their own ranks and give a little consideration to the landowners.—District Game Protector J. E. Rankin, Port Allegany.

But a Sign Can't Wag Its Tail

DIVISION WIDE—I had heard about a fine trophy buck being taken in the past season and was attempting to get some information about it. At one place where I stopped to make some inquiries there was a sign in the driveway of the home which said "Beware of the Dog." I hesitated in the car as the owner approached. He welcomed me with a friendly gesture and when I pointed to the sign, laughed and stated, "There's no dog in the place. The sign does the trick and you don't have to feed it." I am now debating if I should continue breeding dogs or learn to paint signs.—Robert D. Parlaman, CIA.



A Real Swinger

CAMBRIA COUNTY—Many types of hunting garb are observed, but during the past bow and arrow season, a landowner reports seeing a hunter clad in Bermuda shorts. — District Game Protector L. D. Mostoller, Johnstown.

Some Still Do

FAYETTE COUNTY—I have conducted many Hunter Safety courses over the past several years. Most of the students come alone, some come with others, and some are brought by their parents. I am sure most Game Protectors and instructors know the most common question from the parents: "Do I have to stay here with the kid?" At a recent course conducted at Grindstone I got a big surprise. Leonard Williams of Brownsville brought the entire family, registered a daughter, and all stayed the four hours. After the course was over, father, mother, two brothers and another sister proudly looked on to see "Sissy" accept her blue card. If I recall correctly, her grade was 100 percent. This brought back memories of when old-time parents really cared.—District Game Protector A. J. Ziros, Connellsville.



How It Goes

CRAWFORD COUNTY — A local grouse hunter, who is an old hand at the game, told Deputy Cecil Dunham that the shotgun shells in his pocket had scratched the stock of his gun so he decided to put them into a sock first. He took his son on his first hunting trip. As luck would have it, they got into a bunch of grouse. The grouse were taking off, one at a time, and he could not get a shell out of his sock. His son watched the whole affair and when calm was restored asked, "What happened, Dad?" His shook-up father sadly replied, "It's just one of those things, Son."—District Game Protector W. Lee, Titusville.

Everyone in the Act

ERIE COUNTY — Cooperation of four different agencies resulted in a good deer case for me this month. A patrolman for Mill Creek Township discovered a pile of trash containing parts of deer. He called the Pennsylvania State Police, who in turn called the Northwest Division Office, who contacted me by radio. At the time I was accompanied by two Game Management men of the U. S. Fish and Wildlife Service. With their assistance I found and prosecuted a man for possession of five deer. He pleaded guilty and paid the fine.—District Game Protector R. V. Meyer, Fairview.

Shades of the 1700s!

BUCKS COUNTY—During a recent investigation we found a man to be in possession of a large quantity of unlawfully killed pheasants, rabbits, and deer. Apparently, in an effort to portray himself as a conservationist and not a wanton killer of game he stated, "I shoot everything I eat." Obviously, we thought, he'd got his words mixed up and really meant to say that he ate all of the game he shot. But when we left his house that night we began to wonder who actually was confused, because when we had finished emptying all the hiding places of illicit game there was not one ounce of any other meat in the place. — District Game Protector W. J. Lockett, Perkasie.

You Know It!

CAMBRIA COUNTY—
Here I sit just feeling glum,
It's the second and my reports aren't done,
I'd better get them done today,
or Harrisburg won't send my pay!
—District Game Protector D. W. Jenkins, Ebensburg.

Many of Us Do

WESTMORELAND COUNTY—
When talking to people at the Ohio Valley Sport Show in Cincinnati, I always made sure I mentioned that we have over one million acres of Game Lands, paid for by the hunter with money from the hunting license money. This really sets them back, for they have almost no public hunting ground in Ohio, and you must receive permission and sometimes written permission to hunt on private land. One man made this statement, "I hope the Pennsylvania hunter realizes what a wonderful thing it is to have a place to hunt."—District Game Protector S. E. Lockerman, Murrysville.



CONSERVATION NEWS



Deer and Bear Measuring Dates, Sites

THE Pennsylvania Game Commission will conduct a measuring program for white-tailed deer antlers and black bear skulls this spring. This will be the fourth such program for deer antlers, the second for bear skulls. Both trophies will be scored and recorded according to the Boone and Crockett system.

All trophies submitted for measurement must have been taken in Pennsylvania. The following rules govern the program:

1. All racks, including spike bucks, will be measured.
2. Split or repaired skulls will not be accepted.
3. Antlers may not show removed or repaired points.
4. Trophies must have been taken in compliance with the Pennsylvania Game Law.
5. The Pennsylvania Game Commission shall not be responsible for any trophy lost or damaged.
6. The Pennsylvania Game Commission retains the right to reject any entry.
7. Trophies measured in a previous Game Commission contest may not be reentered.
8. All measurements of the judges will be final.
9. Trophies will not be eligible for competition if taken on a licensed propagation area.

Dates and locations for the measuring sessions are:

March 20: Reading Division Office, 10 a.m. to 6 p.m.

March 21: Reading Division Office, 10 a.m. to 6 p.m.; Dallas Division Office, 10 a.m. to 6 p.m.; Broadheads-ville Fire Company, 10 a.m. to 6 p.m.



WHILE SUCCESSFUL HUNTER watches with interest, PGC biologist John Kriz prepares to age deer by examining teeth at deer check station.

March 28: Towanda Courthouse, 10 a.m. to 6 p.m.; Honesdale Armory, 10 a.m. to 6 p.m.; Lock Haven Armory, noon to 6 p.m.

April 25: Huntingdon Division Office, 10 a.m. to 6 p.m.

May 2: Ligonier Division Office, 10 a.m. to 6 p.m.

May 15: Franklin Division Office, 10 a.m. to 6 p.m.

May 16: Franklin Division Office, 10 a.m. to 6 p.m.

Everyone who has a set of whitetail antlers or a bear skull taken according to the rules listed above is urged to bring his trophy in for scoring. Each owner receives a card showing his trophy's score. Full data on all measurements will be maintained at Game Commission headquarters, in a permanent file.

Wildlife Welfare Programs

By Charles T. Cushwa and James S. Lindzey

HOW MANY WILD animals survived this past winter as a direct result of people scattering "food" throughout the forest? Which species of wildlife benefited and which individual got most of the food? No one really knows, and researchers are continuing to study this problem.

We humans view problems from a human standpoint, so let's compare winter wildlife feeding programs with human welfare programs. Human welfare programs are designed to help the weak, sick, old and otherwise unfortunate people who would not, in all probability, survive without this help. We establish hospitals for the sick and injured, nursing homes and orphanages for the old and homeless. The stronger, more fortunate people help the less fortunate. Therefore, we "protect" and "save" many members of our human population who, if left to their own resources, would die. These programs are continuous — helping as many people as possible for as long as help is needed.

By contrast, in wild populations, survival of the fittest prevails and, during hard times, mercy is unknown. Therefore, artificial feeding programs to help wild animals are in direct conflict with the natural system that selects the best individuals and assures survival of a strong race.

Man has learned to manage the habitat and increase wildlife populations to such high levels that, in the fall, many individuals must be removed prior to winter to insure adequate food and cover to sustain those that remain. We accept this need for harvesting surplus animals and enjoy many hours of sport doing it. Sometimes, because of unforeseen extremes in the weather, we misjudge the num-

ber of animals that can survive the winter. If it is a mild winter, many animals may survive, but if it is severe, only the strongest will survive.

What, then, are we doing through supplemental wildlife feeding programs? Let's examine a hypothetical individual who engages in winter feeding programs. Supplemental wildlife feeding programs swing into full action when most people who enjoy the out-of-doors are penned in. "Cabin fever" is a common ailment during and following periods of deep snow and extreme cold. The individual has an urge to get out and do something. Hunting season is closed and the fishing season has not yet opened. He has a brief pause in his busy life and is bored. He sits by the fire and *thinks*.

A songbird hops around the feeder. It is eating and doing well. He feels a glow inside. He fed it. Then a moment of panic: "What about the animals up at the hunting camp? Will any deer, squirrel, or turkey survive for next hunting season? I had better call the rest of the gang. Joe can get his Jeep up the road to the foot of the mountain, and John has a new snowmobile that will carry us on up to the top. If each of us puts in a couple of dollars, we could buy 400-500 pounds of corn. Boy, this will be great." No longer confined to the cabin — no longer bored. He is doing some-

This is paper number 146 of the Pennsylvania Cooperative Wildlife Research Unit. Charles T. Cushwa is the assistant leader and James S. Lindzey the leader of this research unit, located at Pennsylvania State University, University Park, Pa.

thing to help others and enjoying it. So, good or bad, the winter wildlife feeding program is under way.

Recently, in a Midwestern state during a winter of deep snow, sportsmen appeared on television appealing for financial support to save the deer by chopping down trees to make browse available to them. A four-year-old (senior author's son) saw this and became much concerned. He went to his bank, proudly withdrew a dollar from his small savings account, and, feeling very good, sent it to "save the deer." Legislators also reacted to this appeal and appropriated \$100,000 of the taxpayers' money to support this emergency program. Many felt gratified by their participation, but *how many deer were saved by this program?* Or, worse yet, how many deer may actually have been lured into dependence on handouts and died because handouts weren't adequate?

Supplemental winter feeding programs usually occur in spurts — on weekends when people have free time and want to get out. Feeding is usually confined to open roads or to short distances from a road. The snowmobile is increasing the distance to which we can deliver our welfare packages in the bush. But is it worth it? Also, how much harm is done by racing through the woods on snowmobiles and disturbing and further stressing already hard-pressed animals?

In Pennsylvania each year, we take approximately 150,000 deer through hunting harvest and accidents on the highways. If this number is considered to represent the excess animals over and above our winter range carrying capacity, let's see what would be required if we provided one ear of corn per day (which alone is not adequate) for each of these 150,000 deer from January through March — about 90 days. We will need *13½ million* ears of corn—roughly 135,000 bushels or 9½ million pounds of corn. That's a lot of corn.

If this feeding were feasible, what good would it do? Would we have

more deer available for the hunter next fall? We have not been able to determine all of the effects of such a complex program, but personnel of the Pennsylvania Game Commission, Penn State University and the Cooperative Wildlife Research Unit are currently studying the effects on deer of extreme winter food restriction followed by feeding unlimited amounts of hay or corn. However, we feel that, during the winter food shortage period, feeding must be continuous if a supplemental wildlife feeding program is to be safe for the animals and have a chance of being effective. It must also be widely distributed and put close to the animals to be fed.

Contrary to Natural System

Since people have emotions, winter emergency feeding programs, good or bad, may continue, but we should realize that we are creating a wildlife welfare program which is contrary to the very system that helps the wild animals survive—"survival of the fittest." Any feeding program will require constant attention to insure that ample feed is always available to the beggars we create. Unless we humans are willing to support a full-time wildlife welfare program where we make wild animals, like zoo animals, dependent upon man's supplemental feeding programs for survival, maybe we had better permit natural processes to work so that the animals can maintain a normal balance with their environment. In doing otherwise we may increase animal losses and destroy habitat by concentrating animals where handouts were provided but are no longer available. Last, think of the money we are going to spend in a continuing wildlife welfare program. Could we not invest our funds in more profitable wildlife programs, particularly by making more permanent improvements in the habitat, reducing environmental pollution and encouraging landowners to adopt positive management procedures?

You must judge.



*Photo by Nick Drahos,
New York Conservation Department*

Seth Gordon Receives Award

SETH GORDON, former Executive Director of the Pennsylvania Game Commission, now retired and living in California, is shown above receiving the Seth Gordon Award from Harry R. Woodward, at the joint annual banquet of the International Association of Game, Fish and Conservation Commissioners and the American Fisheries Society in New York City. Mr. Woodward is President of the International Association.

The award was given to Mr. Gordon in appreciation for "a half century of inspired leadership and distinguished service in natural resource management."



Delbert L. Batcheler

DELBERT L. BATCHELER, the Game Commission's wildlife conservation education specialist, retired November 20, 1970, after more than 41 years of service to our sportsmen.

"Batch," as he was widely known, served in various clerical positions with the Game Commission from 1929 until 1946, when he became the Commission's head photographer. He served in the wildlife conservation education post since 1964, directing the Commission's exhibits and visual aids programs. During World War II, he served in the Air Corps.

Batcheler's father, Charles, was one of Centre County's earliest Game Protectors.

GAME NEWS Price Increased

An increase in the price of GAME NEWS was approved at the October meeting of the Pennsylvania Game Commission. Effective July 1, 1971, subscription prices for the magazine will be \$2 for one year, \$4 for two years and \$5 for three years. Single copy price will be 25 cents. Subscriptions at the current price of \$1.50 per year or \$4 for three years will be accepted, to a maximum of three years, through June 30, 1971.

(Continued from Page 26)

Despite the magnitude of contrary evidence from our studies and from other states, many Pennsylvania sportsmen retain the notion that game-farm turkeys are a restoration panacea. This notion arose because pen-raised turkeys were being stocked when our turkey population and range expanded from southcentral across northcentral Pennsylvania into western New York State. Sportsmen credited this expansion to these stocked birds, but the evidence suggests strongly that other factors were involved.

First, the south-to-north spread occurred along a fairly solid front. This is contrary to what would be expected to happen from the releases of game-farm birds made simultaneously in all northern counties. Had the many releases of game-farm turkeys been successful, the pattern of spread would have been from pockets of establishment throughout the range to fill in the gaps. Instead, this front advanced northward at about five miles per year through the contiguous forests of Pennsylvania (Figure 2). This rate of natural range expansion is continuing across western New York without any stocking (H. Bobseine, personal communication, 1968).

This spread was retarded by rivers, like the West Branch of the Susquehanna and later by the Allegheny. A long, narrow projection from the main northern range and the habitat on the northwest side of the Allegheny River have been occupied only since 1965, despite 20 years of stocking with game-farm birds (Wunz & Hayden 1967).

Second, the advance was stopped by breaks or constrictions in continuous forest, as would be expected with natural movement. Only three populations have been established in adequate range beyond these expansive agricultural and urban barriers in Pennsylvania, despite the annual liberation of thousands of game-farm turkeys. Whether these three populations are truly established, or whether they are maintained because releases of game-farm turkeys continue, is not known.

Third, there is a noticeable difference in wildness of turkeys in our northcentral range and adjacent western New York, compared with the tamer behavior retained by birds of game-farm origin in New York's Catskill flock and in Pennsylvania's few isolated populations. Wildness in turkeys is inherent, and acquiring it is an extremely slow process (Leopold 1944).

Thus, the pattern of range expansion in northern Pennsylvania, the general failures

TABLE 6

Population data for nine study areas on which wild-trapped turkeys were released

Area and Region	Square Miles of Turkey Range on Area	Number of Turkeys Released	Time of Release	Number of Breeding Seasons From Completion of Releases to 1967	Winter Density Before Release (turkeys/sq. mi)	Winter Density, 1967 (turkeys/sq. mi.)
Perry County (SC) ¹	275	235	Summer & Winter	5	0.4	0.9
Oregon Valley (SC)	36	38	Summer	4	0.3	1.3
SGL ² 104 (SC)	30	6	Winter	4	0.7 ³	1.3 ³
Mt. Davis (SW)	50	34	Summer	3	None known	0.4
SGL 51 (SW)	50	18	Winter	3	0.1 ³	0.5 ³
SGL 143 (NW)	30	10	Winter	3	None found in complete census ³	(2.4 in 1966) ³
SGL 183 (NE)	30	31	Summer	2	None known	1.5 ³
SGL 70 (NE)	25	11	Summer	2	None known	0.5 ³
Licking Creek (SC)	110	51	Winter	2	0.3 ³	0.4 ³
						1.2 ³

¹ SC = southcentral, SW = southwest, NW = northwest, NE = northeast.

² SGL = State Game Lands.

³ Based on track census; other densities based on records of local game protectors and turkey project leaders.

of game-farm turkeys to establish lasting flocks where range was discontinuous, and the inherent deficiencies in wildness among populations of game-farm origin cast doubt on even the original role of pen-reared stock in northcentral Pennsylvania's successful turkey restoration.

Conclusions

This study demonstrated that artificially propagated turkeys were ineffective in establishing and maintaining turkey populations in Pennsylvania. The findings were even more conclusive that wild-trapped stock was effective. There was evidence that disease may be carried by game-farm turkeys, and there were indications that pen-raised stock

mixed with existing populations of wild birds was genetically polluting the resulting offspring with traits for tameness that detracted from their ability to survive.

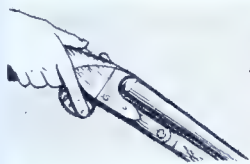
Even if there were no evidence linking game-farm turkey stocking with detrimental effects upon existing populations, and their effects were only neutral, this practice has been harmful to a progressive turkey program in Pennsylvania by delaying initiation of a practical restoration method. As a result of this study, however, the Pennsylvania Game Commission has adopted a wild-trap and transfer program to establish turkeys in new range and has relegated game-farm turkey releases to unoccupied range away from areas where wild populations exist.

Literature Cited

- Anon. 1947. How have the turkeys fared? Wyoming Wildlife 11 (10): 4-12, 39.
- Bailey, R. W. 1963. Progress with wild turkeys. West Virginia Conservation 27 (7): 12-16.
- Cantner, D. E. 1955. An evaluation of the techniques used to restock unoccupied wild turkey habitat in Virginia. M.S. Thesis, Virginia Polytechnic Institute, Blacksburg. 61 pp.
- Eng, R. L. 1959. Status of turkey in Montana. Proceedings, National Wild Turkey Symposium, 19-20.
- Hardy, F. C. 1959. Results of stocking wild-trapped and game-farm turkeys in Kentucky. Proceedings, National Wild Turkey Symposium: 61-65.
- Jacobs, K. F. 1964. Upland game census. Oklahoma P-R Project W-82-R-2. 3 pp. Mimeo.
- Latham, R. M. 1956. Complete book of the wild turkey. The Stackpole Company, Harrisburg, Pennsylvania. 265 pp.
- Leopold, A. S. 1944. The nature of heritable wildness in turkeys. Condor 46 (4): 133-197.
- Mason, Charles. 1964. Turkey restoration in New York. Proceedings, N. E. Wildlife Conference, Hartford, Connecticut. 6 pp. Mimeo.
- Roberts, H. A. 1957. Factors affecting the wild turkey population in Pennsylvania. Proceedings, N. E. Section, The Wildlife Society, New Haven, Connecticut. 9 pp. Mimeo.
- . 1959. Aspects of harvest and hunting pressure in Pennsylvania's wild turkey range. Proceedings, National Wild Turkey Symposium: 31-35.
- Sickels, A. C. 1959. Comparative results of stocking game-farm and wild trapped turkeys in Ohio. Proceedings, National Wild Turkey Symposium: 75-83.
- Smith, C. F. 1965. Turkey tracks. Wisconsin Conservation Bulletin 30 (2): 3-6.
- Svetsugu, H. Y., and K. E. Menzel. 1963. Wild turkey introductions in Nebraska. Transactions, North American Wildlife and Natural Resources Conference. 28: 297-307.
- Wilson, H. L., and J. Lewis. 1959. Establishment and spread of the wild turkey in southwestern Michigan. Journal of Wildlife Management 23 (2): 210-215.
- Wunz, C. A. 1962. Pennsylvania's new look in turkey management. Pennsylvania GAME NEWS 33 (2): 15-17.
- , and A. H. Hayden. 1967. The wild turkey in Pennsylvania. Pennsylvania GAME NEWS 38 (11): 7-13.

Game Commission May Accept Gifts

Conservation-minded groups and individuals sometimes contribute to the future of hunting in Pennsylvania by making donations to the Game Fund or providing gifts to the Game Commission. The Commission has been given a number of tracts of land suitable for public hunting, ranging in size from small river islands up to rather extensive holdings. Also given to the Commission in the past were large, valuable mineral rights. The Commission also has the right to accept donations from any person, firm, corporation or association; these are placed in the Game Fund and used to purchase public hunting lands or for other phases of Pennsylvania's wildlife management program.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



REGISTRATION OF STUDENTS for Hunter Safety Program at meeting of Huntingdon County Federation of Sportsmen's Clubs.

Hunter Safety the Huntingdon Way

By Wes Bower
CIA, Southcentral Division

"WE ASKED FOR a mandatory Hunter Safety Program, and now that it's here, we want to do our share."

This has been the attitude of the Huntingdon County Federation of Sportsmen's Clubs concerning Pennsylvania's compulsory hunter safety training. This county's Federation of Sportsmen's Clubs supported and requested the legislation which established Pennsylvania's present day program.

When it finally arrived, this active group did not sit back and rest on their laurels. They simply rolled up their collective sleeves and in cooperation with the District Game Protectors organized a county-wide program which affords all interested youths the opportunity to participate in safety training.

Beginning in early fall, individual clubs, under county sponsorship, establish scheduled dates of training. Announcements of all classes are adver-



MARK KYPER, a member of the Huntingdon County Federation, gets pertinent data from youngsters eager to benefit from the training program.

tised daily in local newspapers. The cost of advertising is absorbed by contributions from local hunting license issuing agents. Announcement posters are also placed in prominent locations in many county business establishments. Spot announcements are given on radio, and Game Protectors contact all schools, relaying dates and time of

classes to the interested students.

With this type of advance publicity, "I just didn't know" is a mighty feeble excuse for anyone not being aware of the training.

Usually classes are from 8 a.m.-1:30 p.m. on Saturdays, and it is suggested students bring a lunch. Sportsmen's clubs from various parts of the county host the event and assist the Game Protector in the actual instruction.

This type of scheduling achieves two important results. It allows many sportsmen groups to assist in training and also reduces the transportation problems of the young students by allowing them to choose a course near their homes.

While it is true that in many areas a lot of organizations assist in this Commission program, nevertheless, it seems quite appropriate that first-time hunters in Huntingdon County should receive their training from an organization which supported the hunter safety efforts during its early years in the voluntary stage.

It's quite apparent that hunter safety, the Huntingdon way, will be around in the years to come.

Youths Urged to Keep Old Hunting Licenses

Pennsylvania's young hunters are urged to hang on to their hunting licenses, rather than throw them away at the end of the hunting season.

In order to qualify for a Pennsylvania hunting license, a person under the age of 16 years must present either (a) evidence that he held a hunting license in Pennsylvania or another state in a prior year, or (b) a certificate of competency showing that he has successfully completed a course of instruction in the safe handling of firearms and bows and arrows.

A number of youths who have taken hunter safety courses lose their certi-

fication cards, and when they go to purchase new hunting licenses in the fall they don't seem to have any proof that they are qualified. If a youngster had a hunting license the previous year and can produce it, he is able to meet the requirements for purchasing a new license. Those who hunted previously but don't have a license, and those who took a hunter safety course but don't have a certification card, still may be able to prove their eligibility, but it's usually quite a chore. It would be much easier if they would only hang on to their old license or the certification card.

THE SPECIES of wildlife that abound today in Pennsylvania's fields and forests are triumphs of natural selection. They are the end result of nature's unending quest for perfection, the result of adaptation and specialization to the type of life each creature must lead in its ecological niche. We are all shaped by external forces and pressures.

The white-tailed deer of today is a beautiful, alert, graceful creature because it has to be. In the past, deer were preyed upon by mountain lions



number of patients who were deer hunters. One hunter complained bitterly about the deer hunting in his area, saying does should not be

The White-tailed Deer—*Odocoileus*

By Leonard Lee Rue, III

and wolves, and the deer that was slowed down by disease, was deformed or was not mentally alert was killed and eaten. The predators have prevented such defective deer from passing on their inferior genes to subsequent generations. Mountain lions and wolves have long since disappeared from Pennsylvania's forests but increased predation by man and feral dogs continues to shape the deer.

Actually, today, the deer is its own worst enemy. The whitetail's reproductive capacity is such that without hunting—a form of harvesting a crop—the deer would, as it has in the past, overpopulate and destroy its range and food supply. Many hunters are amazed when I tell them that the deer is not a forest animal but a fringe animal. The deer cannot live in large unbroken tracts of mature forests; rather, it fares best on timberland that has been lumbered off. When new forest growth starts another cycle of plant succession, deer have an abundance of nutritious food. Such conditions produce the largest number of deer having the largest bodies and bearing the biggest antlers.

This past winter, while recuperating from a spinal operation in the East Stroudsburg hospital, I talked with a

hunted. He claimed the deer were becoming very scarce because the does were being shot off. I asked him where he hunted and he told me up by the signal tower on top of the Delaware Water Gap Mountain. When I asked him how long he had hunted the area he replied, "More than twenty-five years."

"Are the trees the same size now as they were when you first hunted there?" I asked.

"Of course not," was the reply, "it used to be brushy there but now the trees are about 40 feet high."

Old habits are hard to break. This hunter had failed to realize that the forest growth had eliminated the deer, not the hunting of does.

The most basic premise of game management is that a given amount of land can support just so much life. You cannot stockpile wildlife; if man does not harvest the surplus game animals and birds, nature will through disease or starvation. The only way that you can increase the numbers of wildlife is by improving the habitat; i.e., by increasing food and cover.

That Pennsylvania's game management program is a sound one is indicated by three factors. Number one is that Pennsylvania's annual deer har-



vest is relatively stable, about 120,000-140,000, proving that the total deer herd is relatively stable. If in the future Pennsylvania's annual harvest declines, it will not be because of excessive hunting but due to the inevitable destruction of habitat by a burgeoning human population. The second factor is that Pennsylvania's deer are not subject to excessive starvation, proving that the herd is kept in fairly good balance with the available food. The third factor complements the second factor when a glance at the record book shows that 30 of the 50 biggest deer heads taken in Pennsylvania have been taken in the past 25 years.

Neither the number of points nor the size of a buck's antlers are an indication of age but rather an indication of the quality and quantity of the deer's food. Deer have a potential life span of about 10 to 12 years. One doe in captivity did live to be 19½, although few ever reach that age. The most accurate way to age a deer is by weighing the dried lens of the deer's eye. The most commonly used method is by noting the wear on the deer's teeth.

A buck's antlers are weapons and their main use is to fight other bucks. Antlers start to form in April when the pituitary gland is stimulated by the increasing number of daylight hours. Because antlers are solid, the new growth is nurtured by a network

of blood vessels formed on the outside of the antlers that looks and feels like velvet. The antlers in this condition are soft, hot to the touch and bleed easily if scratched. By the end of August the antlers have reached maximum development and the "velvet" dries up and is scraped off by the buck's shadow boxing with resilient saplings and bushes.

Finest Condition

The advent of breeding season finds bucks in their finest condition. In their eagerness to service as many does as possible, the larger bucks welcome the challenge of any buck they consider competition. Usually these fights are a very strenuous pushing and shoving match with the weaker buck losing little besides his dignity. On rare occasions the antlers of two bucks become inextricably locked, dooming both deer to a lingering death by starvation.

The doe's oestrous period starts in November. She is receptive for a period of about 30 hours. If not bred in this period, and most are, she will come back into heat every 28 days for about three or four months. By the end of December, most of the does are bred. The buck's supply of the male hormone testosterone decreases. When this occurs, a single line of cells at the base of each antler disintegrates and the antlers drop off like the leaves from a tree. Most shed antlers are not found because they are soon consumed by rodents which eat them to get the calcium and phosphorus they contain.

The gestation period of the white-tail is 205 days. Most fawns are born in the latter part of May or the first part of June. A doe giving birth for the first time usually has a single fawn; thereafter twins are the rule, although there are records of triplets, quadruplets and even quintuplets.

At birth the fawns weigh 4½ to six pounds and have a spotted, camouflage pattern. They are also practically odorless. Fawns usually are hidden by their mothers for the first couple of

Leonard Lee Rue, III, is well known to GAME NEWS readers for his outstanding wildlife photographs. He is also an internationally recognized naturalist, with a number of books to his credit, including The World of the White-tailed Deer, The World of the Raccoon and The World of the Red Fox, all in the Living World Series edited by John K. Terres. With this article he begins a regular series on the wildlife of Pennsylvania. We're sure you'll find it interesting and informative.—Ed.



FEW PEOPLE HAVE EVER SEEN a younger fawn than this little fellow. He was barely five minutes old when photographed! The button buck may have been the doe's last-year fawn.

weeks. After that period the fawns follow after the mother as she follows her daily routine.

The fawns start to feed upon vegetation at two to three weeks and are weaned in about two months. In September, when all deer shed their

bright red, summer coat for their heavier air-filled winter coat of grayish-brown, the fawns lose their spots. Young deer usually remain with their mother until they are chased away by her as she prepares to give birth to her next young the following spring.

The white-tailed deer is considered "big game," but the deer is not really a large animal. Hunters often describe the one that got away as being "this high," as they hold their hands level with head or chest. In reality, it would take a mighty big deer to stand much higher than the hunter's belt. An average adult Pennsylvania white-tailed deer stands about 34 inches high at the shoulder. The average live weight of an adult buck is about 140 pounds, although the greatest recorded weight for a whitetail is in excess of 400 pounds. Does are slightly smaller and lighter—about 30 to 32 inches high at the shoulder and 115 pounds live weight.

With continued good game management practice in the years ahead, plus several million acres of state-owned forest land in Pennsylvania for deer habitat, the future of the whitetail in this state seems assured.

Furs in State Bring \$646,646

Pennsylvania furs bought by the state's dealers brought a total of \$646,646 during the 1969-70 season, a Game Commission compilation shows. The figures represent only Pennsylvania-caught furs bought by licensed raw fur dealers. Furs shipped or transported out of state by trappers or held for their own use are not included in the tabulation.

The 329,691 muskrat pelts made up the largest item in the state's fur market last year, bringing trappers a total of \$402,405.71. Making up the next largest category were 52,149 raccoons, sold for \$135,497.53. Trappers sold 3045 beavers for \$38,652.44 and 6873 red foxes for \$32,836.67. The 3774 minks sold by trappers brought \$20,748.53, while 3601 gray foxes were purchased by dealers for \$11,288.69. Included in other sales of pelts were 8555 opossums, sold for \$4,517.68; 842 skunks, for which dealers paid \$516.45; and 433 weasels, which brought \$179.80.

Total prices paid for all Pennsylvania furs last year were slightly below the 1968-69 figure of \$714,928.50, but considerably above the 1967-68 total of \$303,210.96 and the figure for the 1966-67 season, which was \$380,081.15.



ONE REASON FOR CAMPING is to get away from the crowding typical of our cities and suburbs, but too often our efforts are unsuccessful.

Camping Potpourri

By Les Rountree

ONE OF THE joys of doing a column like this is the huge variety of things to talk about. Just about everything that happens out of doors is of interest to some campers. Perhaps I'll regret these words someday, but there never seems to be a shortage of subject material. There are, however, times that ideas just don't lend themselves to full column subjects. I have a drawer full of one- and two-paragraph thoughts that never quite blossomed into full-bloomed monthly subjects. Since January is desk cleaning time, I thought I'd try to consolidate some of these thoughts into a sort of potpourri. Here goes.

Needed . . . Smaller Camping Areas

With more and more campers on the scene each year, it's become obvious that every state needs more quality camping areas. I'm talking about both public and private camp-

ing locations. Many states, including Pennsylvania, are trying hard to keep up with the demand. But do we have *giant* ones? Some people like a crowd no matter where they go, but I'll bet that the vast majority of campers like a bit more serenity than that offered at the "peg-to-peg" campgrounds.

Even if a developer does have a hundred acres or more for campsite construction, I believe he'd do better to break it up into three or four small campgrounds rather than create one giant sprawling monster. Some of the newer state areas are doing just this and I like them. It may be a trifle more expensive to construct this kind of layout, but over the long run happier campers and eventually more profit to the owner will be the result.

Truth in Advertising

Nothing is more disappointing than being hoodwinked by false claims



EXCELLENT HANDBOOKS, such as the ones shown above, are available at most bookstores, give information of interest to all campers.

about facilities. Here are some of the examples I have run into. "Horseback riding available nearby." At one campground this meant a drive of 42 miles. That's available nearby? Another area proudly announced on the entrance sign that hot showers were, "convenient to every site." There were 60 campsites and one shower head in a makeshift canvas affair that featured a mud floor! I could list a dozen more examples but those of you who have been on the road for a few seasons know exactly what I'm talking about. Most experienced campers are not pantywaists and they don't demand Hilton accommodations at every stop, but they don't want to be fooled either. Very rustic setups can be just as much fun as the deluxe pads if they're clean.

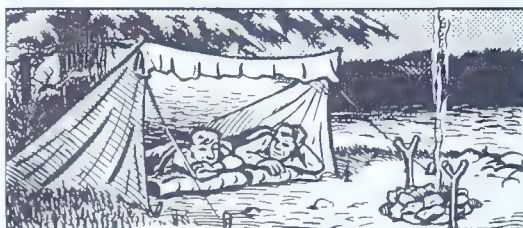
Campers Are Not All Slobs

Nothing burns me more than to hear some very pious recently self-appointed ecologist declare that "the newly created horde of campers is devouring this country like a locust plague" or some equally vitriolic utterance. Most of the campers I've met are good anti-littering citizens who are collectively more concerned about keeping the countryside clean than are the chest-thumping do-gooders. In fact, my guess is that the big swing to camping will do more to preserve America's landscape than all the desk-bound conservationists who are con-

stantly telling us what we're doing wrong. Granted, there are some unsavory types that all of us wish had never bought a sleeping bag. There are also some careless people who should not go hunting, some slobs who should never be allowed on a trout stream and, perhaps even more serious, some real kooks who somehow got hold of a driver's license. The majority will always suffer for the sins of the minority. This has historically been true. But my philosophy is, and I think I'm on solid ground, to encourage more people to wisely use the landscape and its produce. To understand how to do this requires that some time must be spent in the boon-docks. If you happen to be a veteran outdoorsman, help the fledgling camper, hunter or fisherman become more knowledgeable in the pleasure you enjoy. If you're a beginner, seek out the pro and ask some questions. We'll all be richer for it.

Keep Your Equipment Clean

Some campers think that it's the mark of the real outdoorsman to have well-worn equipment. And maybe it is. By well-worn, however, I don't mean dirty. When you're on an extended trip and packing and unpacking in the dark or semi-darkness makes it impossible to keep everything in tip-top shape, do have a clean-up session as soon as you return home. Camp stoves, lanterns, pots and pans, sleeping bags and in fact all the basic camping gear can become pretty cruddy in a very short time. I have made the mistake of stowing some items away for the winter and then discovering the following spring that the caked-on grease, dirt and mosquitoes are twice as hard to remove.



Nobody really enjoys KP chores but you're just adding to the job if you wait.

More Water in Pennsylvania Now

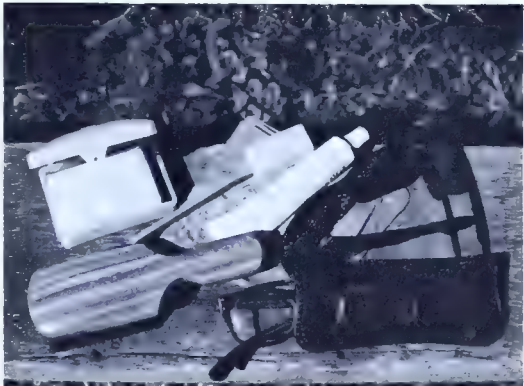
Twenty years ago—or even 10 for that matter—some Keystoneers had to drive well over 100 miles to find a body of water larger than a frog pond. This certainly is not the case today. Collectively, the Department of Forests and Waters, the Fish Commission and the Game Commission have constructed over a hundred new impoundments during the past decade. A lake or pond of sizable dimensions is within 25 miles of everyone. The Poconos once had a monopoly on lakes in Pennsylvania, but now we have new lakes such as Kinzua Dam (Allegheny River Reservoir), Lake Arthur at Morrain State Park, Glendale Dam at Prince Gallitzin, and a host of smaller ones. Just about all of them have camping facilities on the shores or nearby. It's a fact that water draws campers, and while Pennsylvania will never become an eastern Minnesota, we're trying. Incidentally, at least a dozen new lakes are on the drawing boards right now.

Speaking of water, use some of it from time to time for wiping off the glass of your car, pickup truck or camper. With all the fancy maneuvering that you must do to back that trailer into the slot or negotiate a narrow mountain road, you should allow yourself the best view possible. When windows become well glazed with smoke residue, popsicle drippings and the dog's nose marks, it's time to wipe. The vehicle you're riding in can be in perfect mechanical condition but if you can't see out it's a handicap. Be sure to wipe off those side view mirrors too—before you start to move on a foggy morning.

Take an Extra Pair of Glasses

If you wear eyeglasses be sure to take an extra pair along. If you must depend on eyeglasses for driving or wear them all the time it's good insur-

ance to have spares. While I've never broken a pair I've seen others do it when they happened to be a long way from home. It's a dismal feeling and could really kill a trip. I strongly recommend plastic lenses for the active outdoorsman, even though they do scratch up a bit. They cost only about \$5 more than the glass lenses but it's worth the extra cost for peace of mind. If you veto plastic, be sure your



A SMALL SET OF THE right items will help keep you clean and comfortable on all camping trips. Eyeglass wearers will be wise to take an extra pair in case of loss or breakage.

doctor prescribes shatter-proof lenses. For added protection when fishing, hunting, sailing, skiing or any other active sport, attach a piece of elastic to both earpieces to hold the glasses on your head.

Sunglasses should be along on every camping trip. For eyeglass users the clip-on jobs work fine. There are also some very comfortable over-the-glass sunglasses available that are becoming very popular. The best thing about these models is that they offer some side protection as well. On very bright days, particularly on water or sandy beaches, light hitting the eyes from the sides can be just as annoying as the frontal rays of the sun. I won't recommend any particular brand name since there are so many good ones on the market, but I will say that most optometrists agree that gray is a better color for bright sunlight than green.

It gives more protection and doesn't alter the true color of what you're looking at. My biggest problem with sunglasses is remembering where I laid them when I took them off.

Take Pictures

"Say, Florence, do you remember that guy we met at Shady Acres Campground two years ago who was pulling the homemade camper with that 1954 DeSoto?" "That wasn't a DeSoto, dear, that was a Hudson." I had almost forgotten that there ever were Hudsons or DeSotos, but my point is a few pictures can help in recalling things like nothing else can. Not every camper is interested in becoming another photographic bug, but a good simple camera should go along on every trip. Color slides or even black and white snaps are fun to look at a few years later and add an extra bit of pleasure to a family trip. An efficient, dependable camera for camping duty can be purchased for less than \$25 and a few dollars' worth of film for each trip is a worthwhile investment. One word of caution—if you decide to have a slide show some evening, or worse yet, want to show home movies, don't invite your non-camping friends over to your house for the premiere. You'll find that your pictures are interesting to your family, but not to many other people.

Be an Observant Camper

If your idea of a camping trip is to set up the tent and then sink comfortably into the folding chair and stay there for a week, I won't knock it. But it's also fun to become more acquainted with the plants and wildlife that probably exist around your camp-

site. Excellent handbooks available at bookstores cover most of the birds in North America (Peterson's is a good one). The Golden Book Series covering plants, trees, insects and reptiles is also an excellent beginner's set. To be a bird watcher or a butterfly chaser doesn't require that you wear a funny hat or a pair of tweedy knickers. There's nothing sissy about the game at all. The more the camper knows about the living things that surround him the more appreciative he'll be about his chosen recreation. Along with the identification book you'll need a pair of binoculars to do a really good job of it. Don't be satisfied with merely saying to yourself "that's a sparrow, or that's a red bird or a blue bird." Find out what kind of a sparrow or if the red bird is a cardinal, a scarlet tanager, or a redstart; or if the bluebird is really an eastern bluebird or an indigo bunting. Speaking of the eastern bluebird, I haven't seen one in Pennsylvania for over a year.

Plan Now

With a patchwork column like this it's tough to know just how to end it. I suppose with January now upon us it might be fun to begin planning the spring's first weekend trip. (Or maybe you took my advice in the November column and are trying a winter camping trip?) Try to hit the trail somewhere in the northern tier counties during the end of April and the first of May. While autumn is spectacular in the hardwood forest regions, spring is quite special too. The brilliant yellow-greens of the emerging leaves are the kind of strong visual tonic that we all need after winter eases off. Get out and enjoy them.

Good Enough Reason

The colorful monarch butterfly is not preyed upon by birds because it is poisonous.

What to Do . . .

After You Score

By Keith C. Schuyler

Photos From the Author

THE AGONY OF waiting as your target for the day approaches through the foliage from across the field has its own reward in memories of what happened before. But it takes real watchmanship to remain perfectly motionless, breathing softly, averting your eyes, hoping that your plans will work out.

And then that moment arrives!

Almost without thinking or without being conscious of it, you release the arrow. There is a flurry of movement as the deer twists in its tracks and takes off in full flight. Violence of the motion makes you wonder if you have really made a hit. And if so, where?

Sometimes you can actually see the arrow hit home and you have a clear picture of the probable result. At other times the arrow is lost in the movement and you can only *believe* that everything you put into that shot has produced results. Whether or not you have remembered everything that you promised yourself you would remember, there is always the pounding question if the deer has run out of sight: Is it a good hit?

At the moment, your concern is



EVEN TRAILING IN SNOW can be tough if the area is tracked up or the animal takes to water, but the effort can be rewarding, as here.

usually *whether* you hit. But even a bad hit, from the standpoint of marksmanship, may produce fatal results. A natural tendency is to get on the trail as soon as possible to find out the answers to some of the questions that keep nagging at you.

It is a test of patience. The best thing you can do if your deer is not in sight, and down, is nothing. How long you wait should be determined somewhat by what knowledge you have of the hit. If you are absolutely sure that it was a good chest shot, there is an excellent chance that your deer is down, dead and waiting for you. On the other hand, even what appears to be a good hit can sometimes be a trick of the imagination or faulty vision or just the compelling desire to make it so. So many times an archer will swear he has made a heart shot only to find his arrow in a tree or a stump.

No matter what you may think about it, one thing is obvious. Your



IN THE FLURRY OF movement which often follows the release of an arrow, it is sometimes difficult to tell where or if a hit was made.

deer is gone. How far it goes may be eventually determined by what you do next.

It has become a trite saying that an arrow kills by hemorrhage. Everybody knows that. Well, almost everybody. Although a hemorrhage is normally thought of as heavy bleeding, technically it can be anything from a razor nick to a full-blown fountain of blood coming from a major artery. If the deer we are after has been visible in its flight for 50 yards or more, it is a fair bet that any hemorrhage is something less than a major artery. But, since we don't know, it is best we just sit down and think about it.

One thing is absolutely certain. Whatever damage that arrow did is done. Trying to investigate too soon may push the animal far beyond its expected capability. The amazing stamina of wild creatures is well known to all veteran hunters, and the novice will learn fast—particularly if he tries to move too soon on wounded big game.

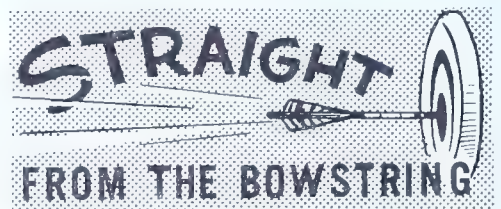
There is no argument against getting to small game species as fast as possible after a hit with an arrow.

Many of these will take to the nearest groundhog hole if given an opportunity. But a deer must depend entirely upon its ability to place as much distance between the hunter and itself as possible. Its flight is related to its fear. Although the amount of pain that a deer suffers when it is first hit, if any, cannot be determined, there is considerable evidence that most deer react more to fright than to hurt when struck by an arrow. Any attempt by you to move in on the wounded deer too fast can justify its fears. You may push it into another attempt to escape after it has recovered from its initial fright and is lying down to let nature salve its wound.

Matter of Time

If the hit was a good one, a deer will die in its death flight. If it was a marginal hit, but important blood vessels have been severed, the difference is only a matter of time—time which can usually be counted in seconds. But a deer can travel a long way in a matter of seconds. Under normal conditions during the regular season, it can quickly be lost amid the foliage which has not yet succumbed to frost. The same conditions do not hold true during the season after Christmas, but a deer can still lose itself quickly in an evergreen forest. At this season a deer is almost certain to be found near thick cover. If snow is on the ground, the bow hunter's problem is somewhat less, but not enough to invite carelessness.

Nevertheless, unless the deer has definitely been seen to go down, it is well to wait a minimum of a half-hour and, if possible, two or three times that period. There is only one compelling reason to hurry the hunt, and that is



simply to satisfy one's curiosity. It's better to overcome this.

When you do take to the trail, don't make the mistake of heading for what you remember to be the last point at which you saw the deer in flight. It is too easy to become confused. Rather, go to the area of the hit and look for blood sign or a jump track. Take it from there. And be sure to have someone remain at the last positive tracks or blood trail if it peters out and you are looking for it. It is so easy to lose the general direction of the trail altogether. If alone, mark your trail with bits of tissue paper which should be a standard item of bow hunting equipment.

If the first evidence is a few drops of blood, follow them closely for a badly wounded animal will often begin to bleed in earnest after traveling a short distance. If it is merely a jump track in the dirt or snow, follow it carefully since it is easy to be led astray by another deer's tracks or to simply lose the one you are after on hard ground or rock. The trail will tell you much about what to expect at its end.

Lung Shot

If the blood is bright and shows sign of froth, it is likely that you had a lung shot and your trophy should not be far away. If the blood is dark, it is a fair chance that you have severed only veins and you may have some tough tracking ahead of you.

It is most important to keep in mind that a big game animal, even though fatally wounded, may not leave a blood trail for some distance. Such trails are dependent upon the *location* of the hit more than the damage it did. A high hit with a downward thrust may drop the animal in a matter of yards, but it may not leave a blood trail at all. On the other hand, a superficial wound on an uphill shot may produce a startling blood trail for a very short distance before it peters out. The least suspicion of a hit should be regarded as though it were a mortal



TRYING TO TRACK a wounded animal whose hoofprints are mingled with others in a herd is a real challenge of woodsman'ship.

wound until every effort is made to recover the animal.

It is rarely smart to quickly follow up a deer even though you have good reason to believe that it may be lying behind the first tree that hid it from view in its death flight. Actually, the only time recommended here to immediately follow up a suspected hit is if it is raining hard or snowing. Although you are less apt to be hunting at such times, it sometimes does happen. Or, if a storm comes up suddenly right after you have made your hit, you have little choice in the matter.

Approaching darkness is not a good excuse for closely following up a suspected hit. Every archer should carry a light with him in his automobile. Mark the spot well where you have made your hit so that it can be easily found, return your archery tackle to your automobile or camp, and then return with the light. It is important to separate the light from your tackle to avoid any suspicion of illegal practice.

Under normal circumstances, I don't even go near the spot where a hit has been made until I am ready to follow the trail. This prevents all disturbance of the area. But if approaching darkness or a storm alters the situation, there is nothing wrong with checking out the immediate area after whatever

wait can be permitted. The blood trail may be so obvious that there is little doubt that the animal is close by. In such cases it would be foolhardy to risk losing it. A certain amount of common sense is called for in each situation. In the effort to encourage hunters to wait a reasonable amount of time after a hit, it is assumed that no two cases will be exactly alike even though they may fall within a fairly normal pattern.

Relative to tracking down the quarry itself after a hit, there are several considerations. If the hunter is alone, he may approach the problem differently than if he is with companions. Tissue paper of some sort is practically a must on an all-day hunt, and the individual can put it to good use. It is assumed that he has first lined up certain trees and bushes to pinpoint the last spot at which he is positive the game traveled through. But, first check the area of action. A small corner of tissue on a twig will make a good marker. Lacking tissue, the hunter can bend over or twist a handful of grass

DEER SOMETIMES HURDLE ditches, logs, etc., in their flight after being hit, and this makes trailing even more difficult than usual.



in the direction he is taking or break a twig in an obvious manner. Blazing a trail by cutting off bark with a knife or belt axe is frowned upon today where almost all timber has some future use. If the area is stony, a small pile of rocks will help to maintain location and direction.

Absolutely Essential

It is absolutely essential that the hunter look in every direction and try to familiarize himself as much as possible with the spot from which he starts. It is extremely easy to become confused within a matter of a few yards unless this precaution is taken. Check the slope of the land, position of the sun, if available, and the general direction that the game trail appears to be taking. Each time the blood trail or hoof marks are lost, make a mark. Then it is possible to make a circle in an effort to pick up the trail without fear of losing the progress that has already been made.

If companions are available, markers can be skipped by posting a hunter at the last sign. Unless, of course, either storm or darkness is approaching. In such cases, it is a good idea to mark the trail with something which will survive the elements until later efforts can be made to work it out.

Again, although some evaluation of the hit can at times be made from a blood trail, it is no sure criterion as to the amount of damage. One of the toughest tracks I ever followed came on the heels of a hit that I was certain was a fatal one. However, it was a hands and knees proposition for 100 yards before I finally found my first drop of blood mixed with dew on the *under side* of a leaf. It was almost the same distance before a good blood trail presented itself for a matter of a dozen yards or so before it again disappeared. The deer lay quite some distance beyond this where it obviously crumpled in its death flight. Had I not been so sure of a vital hit, it would have taken considerable courage to continue on that most doubtful-

looking trail which took me through some heavy thickets.

In an area where there are many deer tracks, it is frequently quite difficult to follow the animal you have hit. However, since you know the general direction, close inspection of the ground will indicate the jump track where hoof prints are deepest and dirt has been thrown on the leaves. This will be all but impossible to follow at a point where the animal stops running, if it does not drop. However, it is likely that you will find blood before the track disappears.

An exception to this would be where a deer takes to rocky ground. This makes next to impossible tracking without blood. Here, though, there is much more likelihood that a blood trail will develop. Obviously, it is much easier to see blood on stone than on leaves or grass or other brush, and the hard footing is more apt to jolt blood from a wounded animal. Nevertheless, do not be deceived by lack of a blood trail in the event of a suspected hit, since your trophy may be just behind the next boulder.

There is never any reason for rushing, other than the elements. There are times when a deer leaves little or no blood trail, but it goes only a short distance. One thing is always certain. The animal will be well bled out, or in, when and if you find it. Remember that an arrow kills by bleeding, and even though there is no external evidence, internal bleeding will drop the

animal just as fast as though it was making a visible trail that a mole could follow. In the relatively rare instance in which an arrow severs the spinal cord or hits the brain, the animal needs no trailing. Bleed it out quickly.

Each bow hunter has a moral duty to follow up every shot at living creatures. One he shares with gun hunters. It is often tedious work trying to follow a blood trail over autumn leaves. Certain maples drop leaves containing specks of red on yellow that require close inspection for identification. Many has been the time that I have wet my thumb and attempted to rub a spot from a leaf that nature put there, in the hope that it was the blood trail.

But this is all part of the game. To trail any animal tests the woodsman-ship of the best of us and provides a sport in itself. In fulfilling a responsibility that one has as a hunter, he can sharpen his own instincts and abilities. This can be of great value in following game that has not been hit in the hopes of getting a shot.

Only those who have enjoyed the anticipation which comes with breaking through Mother Nature's curtain after a score has been made can appreciate the great thrill that comes with success. The important thing is not to give up until some definite answers have been found. Be a complete hunter, and you hunt with a clear conscience.

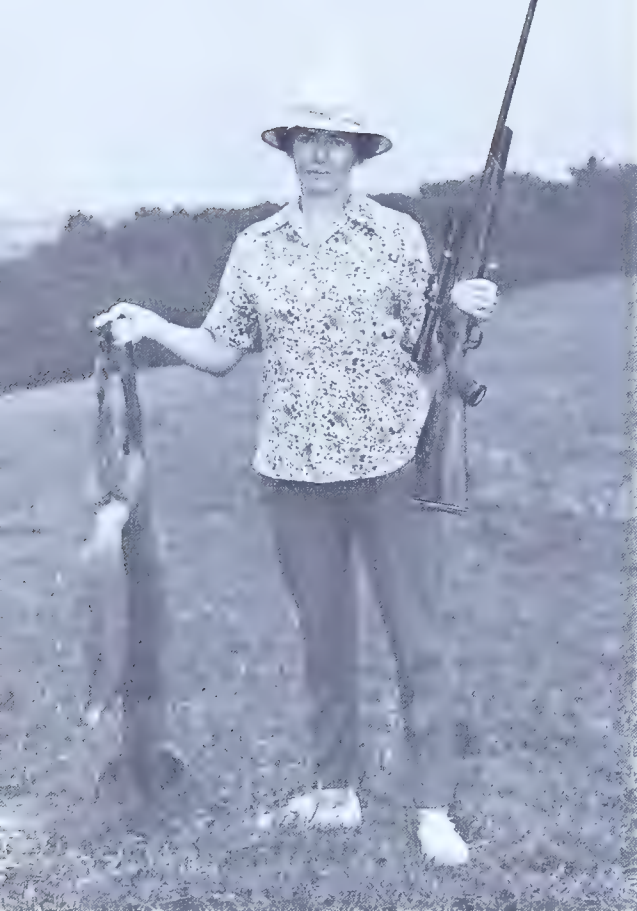
Turkey Hunters Note . . .

The May, 1970, GAME NEWS cover of the wild turkey by Chuck Ripper is now available as a limited edition art print. Reproduced in full color on quality paper, each 18 x 24 print is signed and numbered by the artist. Cost is \$20 per print (West Virginia residents add 3 percent tax) postpaid. Order directly from Charles L. Ripper, 3525 Brandon Road, Huntington, W. Va. 25704.

Don't Trust Them

Baby rattlesnakes are born fully equipped with fangs and poison sacs.

Hints for 1971



HELEN LEWIS WITH a fox taken with her 224 Weatherby at 140 yards, while it was running across open field. Rifle is a scaled-down Mark V, with Weatherby scope.

I SPOTTED the chuck among some stumps in a low lying pasture field. I knew the minute I saw it that I could get the type of shot I was looking for. All I had to do now was get permission to hunt. I found the landowner and asked, "May I have permission to hunt chucks down in that field?"

He took a long look in the direction I was pointing, stuck a pitchfork in the ground, and pulled out a plug of tobacco. I thought I was about ready to be ejected in nothing flat.

"You're more than welcome, my friend," he answered with a smile. "I never refuse any hunter who is courteous enough to drive in and get permission. But I put them off in a hurry if they don't."

I started to thank him after I had showed him my license and found out

By Don Lewis

Photos by Helen Lewis

that I could leave my car in the barnyard, but he stepped out into the yard and pointed to several other places he knew had chucks. I finally thanked him and started to leave.

"Say, where's your rifle?" he called out.

"I'm wearing it," I answered, slapping my hand against the holster.

"Oh, you're one of those fast-draw artists. I suppose you shoot straight and true from the hip like those TV guys," he kidded. "How about giving me a look at your revolver. I happen to be a little more than interested in a handgun."

"Well, it's not exactly a revolver," I answered, removing the gun from its holster. "Here, take a look at this outfit. It's not loaded."

Taking it out of my hand, the farmer turned it over and over. He examined every part of the gun.

"What in tarnation do you call this," he asked after the long study. "I never saw anything like this with a scope, fancy trigger guard, and even a forearm. But by gollies, it's a nice looking outfit."

"It's a Thompson/Center Contender," I informed him. "It's a single shot. The main idea behind it is you just buy one frame, and you can inter-

THE SHOOTER'S CORNER

change barrels by just removing the forearm, pushing out a hinge pin and installing another barrel. Strange as it may sound, the one frame setup handles either rimfire or centerfire cartridges."

To show him what I meant, I got a 22 barrel out of the car and showed him step by step how the whole thing worked.

"What I did was change from a 256 centerfire cartridge to the regular 22 rimfire shell. Notice the hammer is slotted and by rotating it 180 degrees, it aligns itself with one of the frame's two firing pins."

"You might know all the particulars about the nomenclature, but I can tell you one thing I know about it, and that is simply this outfit would put a real dent in my milk fund," he said in a positive manner.

"Yeah, it costs a good bit over \$100 for the frame and one barrel, and additional barrels run about \$45 each. However, it carries a lifetime guarantee, and that's not to be overlooked."

The congenial farmer was so wrapped up with the Contender that I got a box of 22 shells and watched him take a half-dozen shots at a piece of paper stuck on the end of a log. When I got some distance from the barn, he was still looking at a brochure I happened to have in the car. I had a strong feeling that the milk fund was about to be depleted.

Although I had lost about an hour in demonstrating the Contender, I still nailed one chuck at 55 steps with the 256 barrel. All in all, it was an evening well spent, and I gained another friend among the landowners.

With a new year in the making, there's probably no better time to take inventory of what's being offered. The

Thompson/Center Contender that I just mentioned is probably the most comprehensive change in handguns during the last 50 years. I guess it would be best just to refer to the Contender as a handgun. Being a break open, single shot seems to remove it from either the pistol or revolver category.

I gave the one I received a pretty fair workout in the 22, 222, 256, and 44 Magnum calibers, and with the 44 Magnum Hot Shots which are nothing more than miniature shotshells. The gun breaks open by pulling on a spur on the trigger guard. I've explained how the barrels are interchanged.

The rear open sight can be removed, and the factory sells a mount that fits the same holes that can be used with the Bushnell Phantom scope.

I scoped the 256 and 222 barrels and ran some tests from the bench. I shot some rather decent groups at 50 yards, and with a more powerful scope, I think I could have stayed under two inches at 100 yards. When



DON LEWIS EXAMINES woodchuck taken with Thompson/Center Contender single shot handgun using 256 Winchester load. Scope is a Bushnell Phantom.

I visited the factory in New Hampshire, Bob Gustafson told me that tests had shown some really top groups at 100 yards with the 256 Winchester Magnum barrel.

The Hot Shot capsules come already loaded. They are simply a plastic capsule loaded with approximately 9/16 oz. of shot. The capsules come in various colors depending on the size of the shot. To use, simply put 8 grains of Bullseye powder in a regular primed 44 Magnum case and insert the capsule with a standard 44 Magnum seating die. A choke tube fits on an adapter on the end of the regular 44 Magnum barrel. The barrel has conventional riflings and the choke tube has straight riflings. When the capsule is pushed up the conventional

REMINGTON'S RIMFIRE 5mm Magnum in M591 rifle proved effective to about 125 yards on woodchucks for Lewis—about twice the range of the 22 Long Rifle cartridge.



twist rifling of the Magnum barrel and hits the straight rifling in the choke tube, it breaks open, allowing the shot to get out of the capsule. I found the Hot Shot capsules to be effective on red squirrels at 20 to 25 yards. The factory claims the capsules are comparable to a 2½-inch 410 shell at 20 yards.

For those fellows interested in a cartridge that has more to offer than the regular 22 and yet does not reach the power of the small centerfires, Remington's 5mm Magnum—a 20-caliber in different terminology—ought to be what they're looking for.

5mm in Two Models

Remington offers the 5mm Magnum in two models—the 591 clip, and the 592 tubular model. I received the 591 clip, and the minute I removed it from the box, I liked the feel of the forearm. This is strictly a matter of personal choice, but I've always leaned a little to the square, flat-bottom forearm since I think they hold better. I disassembled the 591 and found workmanship up to par for that price of rifle, but, as usual, I was a little disappointed with the trigger setup. The 591's trigger is well built and free from pressed straps and numerous springs that adorn most 22 triggers, but it had a pull of over five pounds. It has always seemed reasonable to me that any rifle designed with the varmint hunter in mind should have a light trigger or at least one that can be adjusted. The extra width of the 591's trigger does make it seem lighter, since a larger area is in contact with the shooter's finger.

There is one important change in the 591 and 592 models that I hope will carry over to other regular 22s, and that is the locking system of the bolt.

Instead of the usual bolt handle locking system of most 22s, the 591 and 592 bolts have six locking lugs that fit into grooves in the receiver. This pointed out to me that plenty of safety had been built into these models to

handle the powerful little rimfire.

The 5mm Magnum shell is very powerful looking and gives the impression that it should be a centerfire. Unlike the straightlined cases of the 22, the 5mm has a necked case that holds a 38-grain "Power-Lokt" hollow-point bullet. Factory ballistics give a muzzle velocity of 2100 fps, with 1839 at 50 yards, 1605 at 100 yards, and 1400 fps at 150 yards. When zeroed in for 100 yards, the bullet is one inch high at 50 yards and 4.3 inches low at 150 yards. That's pretty flat for a rimfire. Kinetic energy produced by this little speedster is 372 foot pounds at the muzzle, 217 at 100 yards, and 165 at 150 yards. There's quite a gap between this rimfire and the 22 Long Rifle bullet which has a muzzle velocity of about 1400 fps and just a little over 1000 fps at 100 yards. Energy from the lead slug of the 22 is 150 fp at the muzzle and only 86 fp at 100 yards.

I installed an inexpensive 6X scope on the grooved receiver and began firing groups at 50 yards. I shot a few one-holers, and even when I went on out to 100 yards, I stayed around 1¼ inches. I'm sure I could have done better with a more powerful and higher quality scope.

After getting through with the bench tests, I drove to an abandoned sawmill that had left a large slab pile. I estimated the distance to be 100 yards from where I was sitting in the edge of a woods. Five minutes hadn't gone by when a chuck ambled out of the slab pile and crawled up on a stake and rider fence about five yards in front of the pile. I shot the chuck in the head, and the bullet passed completely through it. Later, I took a shot at one on the pile, and my bullet caught it in the chest. The kill was quick and clean but the bullet did not come out. I shot others with the same good results, but I quickly determined that the 5mm Magnum was a 125-yard cartridge so far as foxes and chucks are concerned. I've seen claims that these small Magnums are effec-

Letters . . .

Shooters for some reason—perhaps because they're involved in an interesting subject—tend to be letter writers. Many of them write to gun columnists, either requesting information, giving it, or just because they want to talk about their pet guns. I enjoy such correspondence and answer as much of it as possible. But sometimes there just isn't enough time to reply to all mail. If you didn't get an answer to a letter, this is the reason.—D.L.

tive on chuck, foxes, and crows up to 175 yards. I just can't agree with that. It might be possible to stop a chuck or a fox even at 200 yards occasionally, but this does not indicate the normal effective range of the bullet. My hunting definitely proved that 125 yards is maximum. Crows can be killed at longer ranges if hit, but that's not easy to do with the velocity given.

Not for Squirrels

Looking at the 5mm Magnum, I'll have to admit it has something to offer. I hope to try it a time or two on squirrels, but I really can't suggest this caliber for the squirrel hunter. First, I think it's too powerful for the short range that most squirrels are taken. The common 22 rimfire is very effective on squirrels up to 50 yards, so there's no need to have a rifle that will reach another 50 since few of these targets are ever seen that far. Secondly, I don't like the idea of firing a powerful cartridge in the small woodlots where most squirrels are hunted. In other words, I think it just a little too dangerous for general squirrel hunting.

The one place that I believe the 5mm Magnum and other Magnum rimfires can find a home is with the young varmint hunter. I see these cartridges as ideal for the new varmint hunter. He'll learn to get within a 100 yards or so, and these cartridges offer accuracy that will afford the oppor-

tunity to make placement shots.

The hunter interested in getting a new shotgun might take a long look at Winchester's Model 1400 Mark II semi-automatic or Remington's Model 1100 Lightweight 20-gauge semi. These are dandy shotguns.

An Ideal Outfit

The 1400 Winchester I'm using has the ventilated rib with the field stock. It seems to be an ideal outfit for either hunting or trap shooting. I did find the 1400 to be a little bulky, but not enough to be objectionable. I dropped two roosters with it on opening day and found myself swinging on them as if they were clay birds. The 28-inch barrel equipped with Winchester's new "Winchoke" in modified boring gave me what I needed for close ring-neck shots. Winchoke guns come installed with the modified choke and wrench. Full and improved cylinder tubes can be purchased. They are easy to change and do not modify the profile of the barrel. I would think the shooter who does not wish to invest in two shotguns would be well satisfied with Winchester's 1400 Model Mark II field gun and Winchoke.

Remington's 1100 Lightweight 20-gauge version was immediately pounced upon by my wife, Helen. The

6½-pound autoloader took her fancy. This particular model comes only in the 20-gauge, but Remington does offer a similar outfit in the regular 1100 in gauges including the 28 and the 410 bore.

I really haven't had a chance to field test this 20-gauge, but the few shots I took on the range proved it's a well-balanced shotgun. I have no qualms about saying that I think it would be a terrific choice for the ladies or, in fact, anyone who wants a lightweight 20-gauge.

I didn't mention all the new guns that are available, but I did try to give a few pointers on some of the ones that I had a chance to use. One thing for sure is that there is no shortage of good guns. I visited several gun manufacturers this summer and found them in full production. I see this as a good omen. It means to me that we will continue to have new designs such as the Contender, smaller calibers below the regular 22 bore similar to the 5mm Magnum, and more easier-to-swing shotguns. The research and technology that goes into designing or improving a rifle or cartridge is vast and complex, but the end result is a better rifle or shotgun for you and me. Isn't that what we're looking for?

Looking Backward . . .

"The Senecas, of the Cornplanter's tribe, who resided on their reservation on the upper waters of the Allegheny, were peaceful and friendly neighbors, and often extended their excursions into this region, where they encamped two or three in a squad, and hunted deer and bear. In the spring they took the hams and skins to Pittsburgh, where they traded them for provisions and clothing. Their rafts were constructed of dry poles, upon which they piled up their meats and skins in the form of a haystack."

J. F. Meginness, "The Historical Journal," I, 159, Gazette & Bulletin Printing House, Williamsport, 1888.

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS *Executive Director*

ROBERT S. LICHTENBERGER *Deputy Executive Director*

JOHN M. SMITH *Comptroller*

DANIEL H. FACKLER **Division of Administration** *Chief*

DALE E. SHEFFER **Division of Research** *Chief*

HARVEY A. ROBERTS **Division of Land Management** *Chief*

JAMES A. BROWN **Division of Law Enforcement** *Chief*

JOHN B. SEDAM **Division of Minerals** *Chief*

RALPH E. BRITT **Division of Propagation** *Chief*

ROY W. TREXLER **Division of Information and Education** *Chief*

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188

Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.

SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.

Phone: A.C. 412 238-9523 or 238-9524

Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641

Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.

SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.

Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.

Phone: A.C. 717 675-1143 or 675-1144

Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.

Phone: A.C. 215 926-6071

Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473. Phone: A.C. 215 287-8151

WESTERN GAME FARM—Jack N. Anderson, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212

LOYALSOCK GAME FARM—Charles Pfeiffer, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500

STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223. Phone: A.C. 814 275-2515

STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

HOWARD NURSERY

SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brockway 15824. Phone: A.C. 814 265-0458

All We Want to Say Is . . .

HAPPY NEW YEAR!



PENNSYLVANIA GAME NEWS

FEBRUARY, 1971

15 CENTS

038,34
1.6
Vol. 42
no. 2

PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION

JAN 21 1971



Published Monthly by the
PENNSYLVANIA GAME
COMMISSION

COMMONWEALTH OF
PENNSYLVANIA

Milton J. Shapp
Governor



COMMISSION MEMBERS

Robert E. Fasnacht, President
Ephrata
H. L. Buchanan, Vice-President
Franklin

Loring H. Cramer, Secretary
East Stroudsburg

James A. Thompson
Pittsburgh

Frederick M. Simpson
Huntingdon

Edwin J. Brooks
Lansdale

Andrew C. Long
Shamokin

Marshall E. Jetty
Brockway



Glenn L. Bowers
Executive Director



PENNSYLVANIA
GAME NEWS

Robert S. Bell
Editor

R. Theodore Godshall
Associate Editor

John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
The Long, Short Season	2
By Terry L. McCormick	
Antlerless Deer License Allocation Systems	8
By Harvey A. Roberts	
No Need to Hurry	12
By Eugene P. Marinella	
New Method of Spoil Bank Reclamation?	16
By Mort Levy	
Professional Fox Trapping Tricks	20
By Ray Beck	
Wintertime Sleepyheads	25
By Wilbert N. Savage	
Harbinger of Spring	31
By Ken Calnon	

NEWS

Field Notes	34
Conservation News	39
Hunter Safety Education	43
By John C. Behel	

COLUMNS

A Naturalist's View of Wildlife	45
By Leonard Lee Rue, III	
First Aid Refresher Course (Camping)	48
By Les Rountree	
Inside Shots (Archery)	53
By Keith C. Schuyler	
How to Buy a Rifle (Guns)	59
By Don Lewis	

COVER PAINTING BY RON JENKINS

His Latin name is *Accipiter gentilis atricapillus*—an impressive title. But then the goshawk is an impressive bird, the striking white stripe above the eye giving a Satanic appearance that fascinates many bird lovers. A fairly large hawk, body length is about two feet and wingspread perhaps twice that. It is not numerous in Pennsylvania but occasionally is seen in our heavily wooded areas. Its rounded wings and long tail permit rapid maneuvering through dense timber stands, maneuvering reminiscent of an outstanding broken-field runner racing down a gridiron, though no human ever matched the goshawk's agility. If you should see one in our wilds, impress it in your memory. The goshawk is a bird to remember.

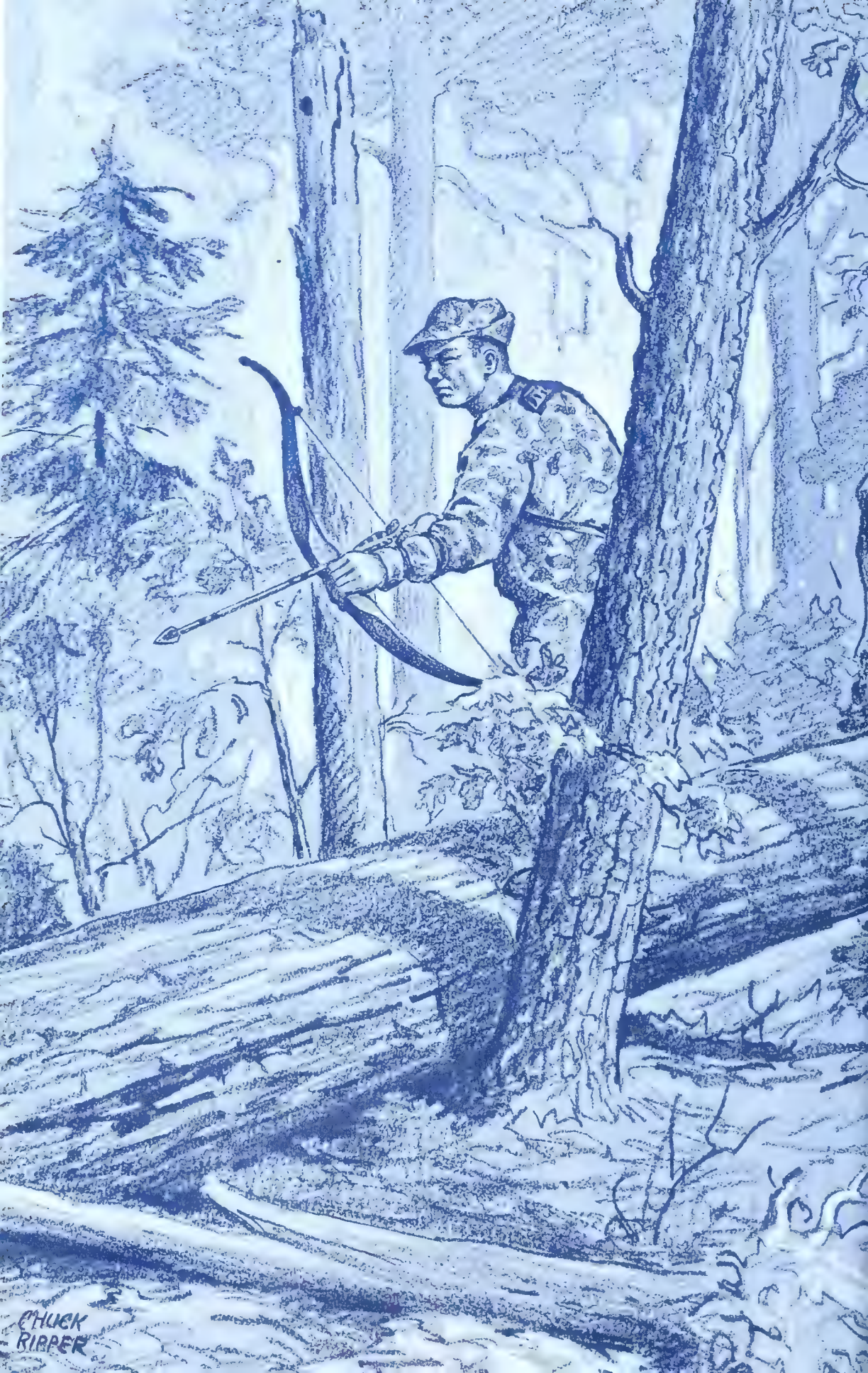
Published **MONTHLY** by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$1.50 per year; \$4 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved. **NOTICE:** Subscriptions received and processed by the last day of each month will begin with the second month following.

Printed by Times and News Publishing Co., Gettysburg, Pa.
Second Class Postage Paid at Gettysburg, Pa. 17325

“Our Plundered Planet”

“The tide of the earth’s population is rising, the reservoir of the earth’s living resources is falling. Technologists may outdo themselves in the creation of artificial substitutes for natural subsistence, and new areas, such as those in tropical or subtropical regions, may be adapted to human use, but even such recourses or developments cannot be expected to offset the present terrific attack upon the natural life-giving elements of the earth. There is only one solution: Man must recognize the necessity of cooperating with nature. He must temper his demands and use and conserve the natural living resources of this earth in a manner that alone can provide for the continuation of his civilization. The final answer is to be found only through comprehension of the enduring processes of nature. The time for defiance is at an end.”

—Fairfield Osborn



CHUCK
RIPPER

The Long, Short Season

By Terry L. McCormick

IT WAS unusually warm for a McKean County October. Under my camo-coveralls I felt the sticky unpleasantness of a spreading film of perspiration. I was climbing too fast. In spite of mounting anticipation, I forced myself to pause, scanning the heavily wooded slope above me while I rested.

Late afternoon sunlight, filtering through the tall aspens, blended with nature's colorful autumn litter in a kaleidoscope of brilliance and shadow. The mottled scenery provided excellent cover for both hunter and hunted, canceling any visual advantage either might have had. As my eyes grew accustomed to it, I witnessed the inevitable sign left by the large deer population that existed in the area. Heavily trampled runways crisscrossed the thick layer of fallen leaves, all heading in the same general direction—down, to the rich pastureland bordering the base of Combs Creek Mountain. Scattered along several of the trails were young saplings that bore the long scars imprinted by rutting bucks exercising their antlered heads against these unresisting foes in preparation for the upcoming mating battles. I couldn't help wondering if perhaps one of those trees had been blemished by a lively 5-point buck—my 5-point!

Matched Wits Twice

For two afternoons in a row we had matched wits, and each encounter had left me the loser. In typical white-tail manner, he had used his small harem of does as an advance guard. Combining their acute senses with his own quick reflexes and the naturally protective environment, he had easily thwarted my two attempts to bring him down. Uncertain, yet hopeful, I was now invading his territory for the

third time, a little wiser, more experienced, and determined to win out in the age-old competition between man and animal.

Having cooled off considerably during the short pause, I gathered up my gear and resumed climbing, finally reaching a spot where several deer paths converged just shy of the crest. A few feet to the uphill side stood the bulky remains of a huge stump, a natural for an ambush. I swept away the surrounding leafy debris and settled down to wait the arrival of my buck, my bow resting on upraised knees. It wasn't long before the warmth of sunlight, the gentle pine-scented breeze, and the rustle of autumn leaves took its toll, releasing my thoughts to drift languidly back to the events that brought about this moment.

Second Day

I first laid eyes on my buck the second day of the season. Opening day, Saturday, had dawned cold and wet, and had faded into dusk actionless. Not so for the few hours I had free after work Monday. Bright and warm, it had me overly optimistic, as I padded through the blazing foliage toward a promising field. Looking at the grassy expanse through a maze of trees, I sighted a buck and a doe directly ahead and only a few yards into the field. Neither deer noticed my cautious approach, as they leisurely grazed in the lush pasture.

At 30 yards I set my feet for the shot and began easing a hand-camouflaged razorhead to full draw. The arrow's nock was about halfway to my chin when a loud snort erupted from the brush to my right. I knew immediately what had happened. I had been so intent on watching the object of my stalk, I had completely neglected my flanks—the worst mistake a bow

hunter can make. A short distance away, a motionless deer, barely visible in the thick cover, had sounded the alarm after watching my entire approach.

The grazing buck instantly went on alert. Uncertain of the danger he faced, he turned toward the still snorting deer, his upright tail twitching wildly and hoofs pounding the soft turf as he made ready to bolt. I rushed the draw for a snap shot, sending the noisy whitetail into flight, my buck on his heels. The panicky release came late, and my broadhead streaked high and wide at a 5-point that was no longer there.

Beaten by Doe

I returned early the next afternoon, hoping to position myself near the field before the deer arrived. Instead, I discovered a lone doe had beaten me to it. She was apparently the lead animal of a small herd, because soon after I arrived, five or six deer glided between the trees and into the sunlit field to her right. My own location was about 15 yards inside the woods, and nearly 30 yards left of the lead doe. Since I wanted a buck, but was too far from the herd to spot antlers, I decided to try a stalk toward them even though it meant passing the leader at something less than 10 yards. But then, that's half the fun of bow hunting.

Taking my cues from her, moving only while she grazed and freezing statuelike whenever she lifted her head, I managed to close to a position directly inside the woods from her. To my surprise and satisfaction, the new vantage point revealed yesterday's buck feeding among several smaller deer, all females, in the herd beyond. I peered at him through the intervening brush. There was no mistaking the extra-dark antlers, one sporting the obscure little bump that made a 5-point out of what anybody but me would label a 4. Unfortunately, heavy cover kept me from taking the shot I wanted. In addition, the near-

ness of the jumpy lead doe left me reluctant to sneak the few yards to the only decent opening in the foliage. I sat it out, remaining motionless while my eyes examined the surroundings. I sure didn't want to make the same mistake twice.

Eventually the buck felt more secure, and grazed slowly away from the relative protection of the herd. He ambled across the grass and came in line with the opening and me, his body facing my way. I quietly shifted to a kneeling stance to compensate for some low-hanging branches, and sighted over the broadhead at the white hair of his chest, a scant 20 yards away.

This time the release was smooth and unhurried. My ears strained to hear the satisfying chop of a solid hit. Instead came the embarrassing clatter of pressed cedar meeting native maple, as the arrow careened off a low branch and sailed harmlessly over the deer's back. The startled buck swung about and trotted to midfield to feed again, none the worse for wear.

It's unbelievable how often an inanimate object spoils what seems to be a perfectly good bow shot. This time I had even followed standard bow hunting dogma on obstacles—ignore them! The theory is, if you think about the obstruction—a bow hunter usually shoots instinctively—you'll probably hit it. It occurred to me that there's a basic flaw somewhere in the theory.

New Situation

I gave my pounding heart time to settle, while I analyzed the new situation. My buck and the herd were now some 40 yards away, an impossible shot from where I squatted. If I could get to the field's edge I'd have a chance for him. It seemed easy enough, until I noticed that the lead doe had stayed put, still less than 10 yards away. The racket my deflected arrow made had upset her, but she refused to be flushed. Yet, if I was ever going to get a second shot, I



SHE SAUNTERED WITHIN ARM'S REACH and stopped to inspect me as I froze in the classic stance of a one-legged man holding a bow. . . .

would have to try sneaking past her. Cautiously, I made a slow-motion move toward the field, my mind churning over the odds on pulling this one off.

With the first footfall came the faint crunch of dry leaves from beneath my moccasins, completely unnerving her. Aware of impending danger, the little doe tried to verify the vague auditory warning with one of her other senses. She carefully sniffed the air for a tell-tale odor, but her nose failed her, a result of zero breeze and commercial buck lure. Curiosity got the best of her eventually, and she crossed the few feet of open pasture and stepped boldly into the woods.

I froze in the classic stance of a one-legged man holding a bow, numbly watching as she sauntered to within arm's reach and stopped to inspect me. I could see the moisture glistening on her flared nostrils and the green tufts of saliva-soaked grass jutting from her unmoving jaws. We stared at each other for what seemed like eons, while

I teetered back and forth in a poor imitation of a local tree. Recognition suddenly flashed lightning-like across her soft features. She exploded into motion, leaving the woods in one giant leap. Racing out across the field, she picked up the waiting herd and disappeared deep into the forest on the far side. The image of those bouncing white flags vanished abruptly, as the noisy scuffling of a nearby chipmunk jerked my thoughts back to the present.

I felt a momentary twinge of conscience. It occurred to me that my buck might have slipped down the mountainside while I had been day-dreaming. I shifted to stretch my cramped legs, then concentrated on watching for him just in case he hadn't passed by yet. After two successive defeats near the field, I had switched from "still-hunting" to "ambush" bow hunting.

The whitetail is, like many game animals, a creature of habit. A summer of isolation allows the deer to

choose his favorite feeding ground, bedding area, and path joining the two. Unmolested, he generally follows this routine until disturbed. Then, his innate intelligence, derived mainly from unexcelled sensory perceptiveness, will cause him to abandon it in favor of survival. I had already disrupted this buck's feeding habits twice, and even though he had never seen the source of the disturbance, I knew he would be uneasy near the field.

Any attempt to move within bow range there would have to be perfectly executed. Instead, I decided to try for him as he came down the mountain, basing the decision on a couple of simple premises. First, it's much easier to close in on a lone deer than several together, and I was positive the buck was meeting his lady friends near the field. Second, the security of the deep woods, and his anticipation of grazing soon, would tend to put him off guard. As always in hunting, luck would play a major role. After all, it was just a semi-educated guess that finally placed me behind that massive stump near the mountain's top. He could just as easily come over the crest somewhere else.

I scanned the hillside continually, swiveling my head with painstaking

I RUSHED THE DRAW, sending the noisy whitetail into flight, my buck on his heels. My panicky release came late and my broadhead went high.



slowness so I wouldn't give myself away to some eagle-eyed whitetail. On one of the scans to the left, I noticed a shadowy movement some distance away and above me on the slope. The phantom soon materialized into a lone deer wending its way through the labyrinth of trees. Traveling downward and slanting my way, it moved close enough for me to spy a pair of dark antlers. I was astonished to find that I was going to get another crack at the same deer. I guess deep inside I didn't think my plan would work, but there he was, head held low, his nose following an invisible path to the feeding ground below.

Out of Range

However, if he continued in the same direction, he would get by me outside of my effective bow range. I had to make a move. Below me about 20 yards was a large fallen tree, its trunk creating a platform about four feet high, projecting out from the slope. I carefully covered the distance in a crouch and climbed up on the tree. Keeping watch on the unwary buck, I worked my way to its center where another tree provided support and cover. Once there, I anxiously leveled a drawn bow on a deer-sized treeless space ahead of the buck. A patch of light tan replaced the darkness of the opening, and every one of my tensed muscles ached for the arrow's release. But something was wrong.

To me, over 40 yards is an awfully long shot, even for a field course where an archer has unlimited time. With only a second to shoot and the buck's paunch the only exposed target, I had to pass it up. He drifted silently into a dense pine stand, while a strange calmness settled over me. I had allowed my third and probably last chance go by the board without a shot. As a sportsman I felt better for having done so. He had been tough competition all the way, and I was ready to admit defeat—except that I didn't have to . . . yet!

Something happened deep within the pine stand, something I never expected. But surprise is an integral part of hunting. For an unknown reason, the buck veered sharply right and reappeared only 35 yards away. He promptly resumed his nonchalant downhill pace. Dumfounded, I searched ahead of him, finding another opening smaller than the first, but much closer. I pulled half-draw on it and waited, that strange calmness still with me. The unsuspecting buck stepped casually into the clearing and paused to look around. He presented an ideal target this time, broadside, his chest and head the only visible body parts.

I aimed low on the front shoulder and relaxed my grip on the bowstring. My 45-pound bow recoiled solidly. Rubber, string-mounted silencers deadened its twang, as the arrow, arcing smoothly, impacted in the shoulder with a loud "choff." All four feet left the ground in a vertical three-foot leap, a sure sign of a mortal hit. He landed running, but brought up short 20 yards downhill. I crouched motionless atop the fallen tree, as he peered, unseeing, back up the slope before breaking into a second run. I know it was only a matter of seconds before his fantastic endurance gave out—I've seen the mad dash of a heart-shot deer twice before. His second run lasted only 15 yards, ending as he crumpled to the forest floor in a shower of debris. In an instant I was clambering down the slope to recover my hard-won prize, a beautiful animal that later weighed in at 140 pounds.



A FEW FEET TO THE uphill side stood the bulky remains of a large stump, a natural spot for an ambush. I swept away the leafy debris and settled down to wait.

I completed the field-dressing slowly, finishing up as the sun touched the brow of a distant mountain. Across the valley the lights of the small town of Port Allegany winked on in the gathering dusk. As I started the long hike back, buck in tow, I tried to predict the effect the sight of my buck would have on my archery buddies. I could almost hear them ribbing me, "Why'd ya get him so soon? Most of the season's still left. You're gonna miss a lot of good huntin'!" But this year I could hang up my bow with a smile gracing my green-tinted features, knowing for sure that the oft-times frustrating but always challenging three-day hunt for my buck had created for me the longest short season I've ever known.

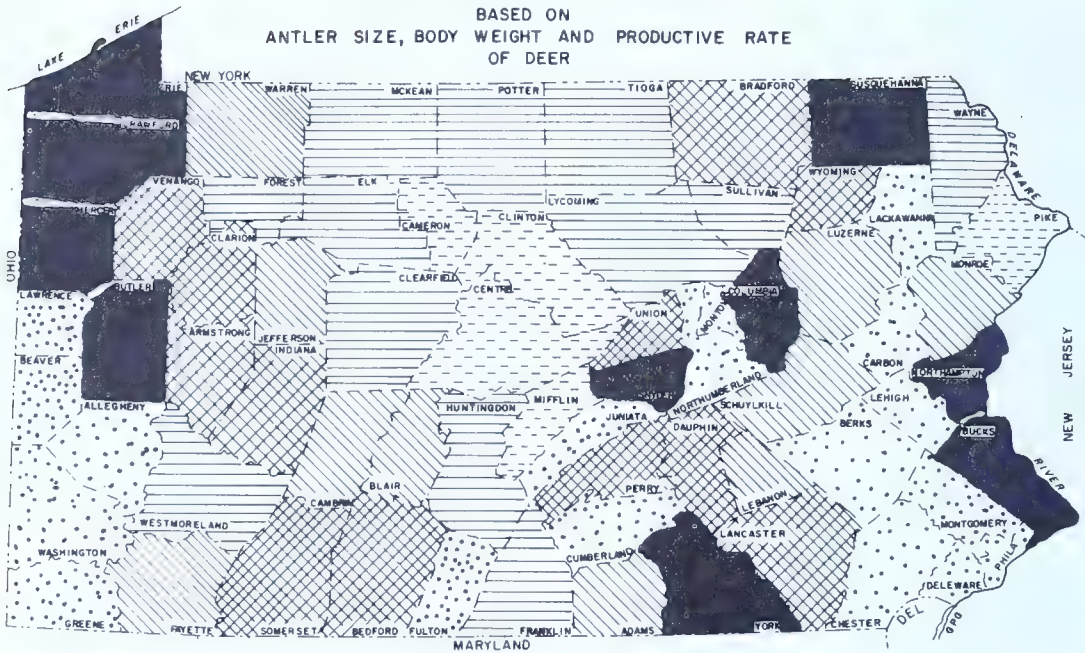
Just Bashful

Among the best camouflaged forms of wildlife is the snapping turtle. Even its eyes are expertly hidden by a pattern of little spots similar to extra pupils.

No Loafer

The whistling sound of the goldeneye in flight is created by its rapid wing beats. It is capable of traveling at speeds up to 50 miles an hour.

PRESENT CLASSIFICATION OF COUNTIES
BASED ON
ANTLER SIZE, BODY WEIGHT AND PRODUCTIVE RATE
OF DEER



CLASS I
Countries with EXCELLENT
quality deer

CLASS III
Countries with GOOD
quality deer

CLASS V
Countries with POOR
quality deer

CLASS II
Countries with VERY GOOD
quality deer

CLASS IV
Countries with FAIR
quality deer

Countries Unclassified

Antlerless Deer License Allocation Systems

By Harvey A. Roberts

BECAUSE OF manpower shortages and the time involved in collecting biological data, antlerless deer license allocations prior to 1960 were largely predicated on such non-biological bases as year-to-year comparisons of antlered deer harvests and intuition. While this system constituted an improvement over the older by-guess-and-by-golly approach, it left much to be desired.

As additional information became available, refinements in the allocation system were possible. In essence an improved method was developed

which involved a calendar year comparison of (1) antlered deer harvest, (2) hunter success in antlerless deer seasons, (3) crop damage loss, and (4) highway kill, with a five-year average in these same categories.

An item-for-item comparison, or trend approach, for one year with the average for the preceding five years revealed deviations or change. If the comparisons showed an overall drop of five percent, the allocations were decreased accordingly. On the other hand, a 10 percent increase indicated a similar increase in license alloca-

TABLE 1
Antlerless Deer License Allocation System
(Based on trends in population indices by county)

<i>Item—Calendar Year</i>		<i>Item—5-Year Average</i>	<i>CHANGE</i>
Antlered Deer Kill	—————→	Avg. Antlered Deer Kill	} + 10%
Antlerless Deer Kill	— COMPARED TO →	Avg. Antlerless Deer Kill	
Hunter Success Ratio		Hunter Success Ratio	
Crop Damage Losses	—————→	Avg. Crop Damage Loss	
Highway Kill	—————→	Highway Kill	

If the calendar year antlerless deer harvest was 1000 units and population indices indicated a change of 10 percent, then the following year's desired kill would be 1100 antlerless deer. Desired harvest of 1100 antlerless deer X number of licenses required to kill one antlerless deer ($L/D = 7$) = 7700 allocation of antlerless deer licenses.

tions. (See Table 1.)

This system (originally used for each county) was employed for the purpose of stabilizing the statewide antlered deer harvest at between 35,000 and 40,000 animals.

While the trend approach to population control was an improvement, the use of year-old and older data constituted a major shortcoming. In other words, changes could and did occur in deer numbers long before the trend information was applied.

With additional personnel trained in deer age determination and the resultant accumulation of additional biological information concerning deer populations, it was possible to change our criteria for allocating antlerless deer licenses. The current technique employed in all counties involves projected population levels and range classification rather than trends.

Basically our classification is predicated on the physical quality of the deer, as reported by PGC wildlife biologist Lincoln Lang in "Deer Range Differences" in the December, 1965, issue of GAME NEWS. Poor physical development reflects poor range conditions and vice versa. Antler beam diameter, number of antler points and

body weight for males and reproductive rate for females are used as the criteria for classifying our range into five categories. Counties with 1½-year-old animals having the best antler development, body weight and reproductive rate we classified as being in Range Class I, graded through Range Class V for our poorest specimens.

With changes in the physical condition of the deer herd there will be attendant changes in range classification. A county currently in Range Class III, for example, will not necessarily stay in that category.

For obvious reasons a complete annual count or census of deer is impossible; hence, county by county sampling is involved in order to develop or calculate population levels. It is in this area of sampling that the efforts of Game Protectors in examining road-killed does for embryos, and of biologists in collating this and other data, are invaluable.

Knowledge of our deer herd in terms of age structure (percent fawns, percent yearlings, percent older animals), sex composition (ratio of juvenile and adult males to juvenile and adult females), productivity and attrition rate (turnover rate or the loss of animals from the population in any one year due to all forms of mortality) is used to reconstruct and project populations. Based on the reported kill for a particular year, we reconstruct the population to determine

Harvey A. Roberts, currently chief of the Pennsylvania Game Commission's Division of Land Management, was until recently chief of the Division of Research. This article was written while he held that position.

TABLE 2

Calculated Potential Breeding Population

(Reconstructed from previous year's reported antlerless deer kill in County "X")

TOTAL REPORTED ANTLERED DEER KILL IN COUNTY "X"	PRE-SEASON ADULT MALE POPULATION = Reported Antlered Kill ÷ 70 (Attrition or AAR rate)	PRE-SEASON ADULT FEMALE POPULATION = Adult male population x 2 (Sex ratio of Ad. female to Ad. male)	PRE-SEASON JUVENILE FEMALE POPULATION = Adult female pop. (3400) x .3275 (Ratio of juv. to ad. [68:100] and ratio of female fawns to male fawns [100:113])	TOTAL PRE-SEASON FEMALE POPULATION = Ad. female Pop. + Juv. female Pop.
1000	1700	3400	1114	4514

Calculated Pre-Hunting Season Antlerless Deer Population

(Projected from total pre-season female population)

TOTAL PRE-SEASON FEMALE POPULATION	FEMALE DEER IN ANTLERLESS KILL = Antlerless Kill x .77 (Assuming antlerless kill was 1000)	POST-SEASON FEMALE POPULATION = Female Kill - Pre-season Female Population	PRODUCTIVITY = Potential breeding Female x .68 (Avg. fawn production)	TOTAL ANTLERLESS POPULATION = Fawn pop. + Antlerless deer pop.	DESIRED HARVEST = TOTAL ANTLERLESS POPULATION REDUCED ACCORDING TO RANGE CLASS I (RI = 35%) (RI & II = 25%) (RIII & IV = 18%)	NECESSARY LICENSE ALLOCATION = L/D (7/1)
4514	770	3744	2546	6290	2201	15,407

what minimum size it had to have been in order to provide the reported kill. This is done by determining the attrition rate (drain on the population from all causes), based on age structure found to exist during the hunting season. We also determine the productivity rate from the sex and age composition of the antlerless harvest (percent male and female fawns in addition to female kill). In addition, the sex composition of adult deer in the herd is ascertained by sampling the kill.

Combined Factors

All these factors in combination reflect the size of the pre-hunting season herd. By subtracting the harvest from the reconstructed pre-season population, we arrive at a post-season population size. Knowing hunting season survival, sex composition and fawn production, we can calculate the size of the herd for the coming season. Average number of fawns produced per breeding female is determined by examination of highway-killed pregnant individuals. (See Table 2.)

With a projected or anticipated antlerless deer population and a knowledge of Range Class, it is possible to calculate a desired antlerless deer harvest for each county in the state.

Because of high reproductive rates and top quality animals, antlerless deer populations in Class I Range can easily withstand and thereby are subjected to 35 percent reductions. A population reduction of 25 percent is used for Range Classes II and III, and 18 percent is used for Range Classes IV and V, where reproductive "bounce back" is poorer.

For example, a projected antlerless deer herd of 1000 animals in a Class I county would, according to our guidelines, be reduced by 35 percent or 350 animals. If seven licenses are required to kill an antlerless deer in this county, then 7×350 or 2450 antlerless deer licenses must be allotted

to realize a harvest of the desired magnitude.

We do not claim infallibility or 100 percent perfection for our present system of calculating populations and allocating antlerless deer licenses. The effectiveness of the system is wholly dependent upon the size and accuracy of our annual biological information and hunter success samples.

Inasmuch as our deer herd constitutes a viable, renewable resource, the controlled annual removal of predetermined numbers of animals is a management must to protect both the deer and the range that supports them. Through our system of antlerless deer license allocations, the magnitude of the annual harvest can be tailored to the needs of each and every county in the state. When and if over- or under-harvests occur, they can be corrected or compensated for by a decrease or increase in allocations the following year.

It should be remembered that a deer herd of normal size and age composition increases in size each year by 25-30 percent, due to the fawn crop. By restricting the harvest to antlered animals, only 12-14 percent of this annual increase can be harvested. If the herd is to be stabilized, the additional 11-18 percent must be taken from the antlerless deer stock.

The Pennsylvania Game Commission has an obligation to the resource, to sportsmen, to non-hunters and to the habitat. This obligation can and must be met by our management program.

Letters . . .

Editor:

I sincerely hope you will not have a doe season next year. The deer herd is lower in this area than it has been in the last five or six years (in my personal opinion). I had to hunt seven hours to get one *without* horns, even.

Respectfully yours,
James A. Wyant



No Need to Hurry

By Eugene P. Marinella

“WE SHOULD’N’T have stopped at all for coffee in Hartstown since we were late to begin with.”

Tom nodded, blinked a few times and mumbled that not even 10-year-old paper boys with morning routes were up at this horrible hour, let alone two supposedly grown men. He muttered that there was no need to hurry and continued babbling briefly until his lolling head suddenly thudded against the car window. I knew immediately that he was still more than half asleep.

The time was well past 5:30 and the sooty November sky already showed a thin fissure of incandescent pink on the far eastern horizon. I rammed the gas pedal closer to the floor and the old lumbering Mercury groaned and shuddered, straining a flurry faster up the pocked, rut hole pitted road from Hartstown toward the Game Commission’s Goose Management Area near Linesville. Tom mumbled the entire way.

The day had all the appearances of being miserable. We had taken off work, hoping that possible bad weather or the attractions of the newly opened small game season might quench the appetites of a few “blue bird” day waterfowlers, thus increasing our odds of drawing an unclaimed goose blind. We lost on both counts. I knew it as I herded the monstrous Merc into the parking lot. The small gravel area resembled a convention rally more than anything else. Cars, trucks, campers, Jeeps, and other assorted vehicles, each adorned on top with a wildly different type of water craft, plus men and roaming bands of dogs packed the place. Undoubtedly the weather too gave every indication of turning delightful as the tiny crack of pink in the sky had matured and blossomed forth into mammoth size. “No hope at

all for one raggedy cloud, let alone a couple,” I said, shaking Tom’s shoulder. “Wake up, Mornin’ Glory, we’re here.”

Tom moaned twice, once from being forced to relinquish his cozy den in the car, once when he saw the carnival in the parking lot. “No need to hurry,” he said.

We half jogged to the registration building, hastily filled out an application for a blind and began to mill around with the scores of other men who had the same plans as we did. Tom never quit moaning. The man on duty took our puny card, placed it in the towering stack with the others just like it, slammed the door and hollered dryly, “No more applications for unclaimed blinds.” At five minutes to six, Ray Sickles, the Waterfowl Management Agent in charge of the area, interrupted Tom’s not too comic speech about our fantastic luck by wishing everyone present a “Good Morning!” His voice was just too sweet. Then he proceeded to tell us there were three unclaimed blinds and 36 applications. The reply was a tremendous groan.

White Ball “a Good One”

Quickly mentioning what blinds were available, Sickles made special note of the fact that blind number one was open. With that, the entire throng of men stirred and a flurry of muted whispers and rumblings rustled through the room. Sickles methodically chanted the procedures of the drawing and the acceptance format. Black and white balls would be placed in the cage. The black balls represented the men present, while the white balls represented the blinds. If a black ball fell down the slender chute, the man lost. A white ball, as Sickles put it, was a “good one.” It took only a moment to explain.



THE NEXT BALL would determine whether Tom and I would hunt. My eyes squeezed shut, I heard Sickles' voice say, "Marinella—a good one!"

Another man set up the squirrel cage, stuffed it with three dozen black balls and added a lonesome trio of white ones. Sickles read a man's name from the pile of application cards, the cage handle was cranked for the first time, and the room fell silent. The cage stopped spinning and a ball rolled down the chute. A black one. The first 12 were black ones. With each man who unhappily shuffled outside, I grew more excited. My blood pressure soared. Even Tom stopped his tirade about paper boys and began to focus his big, blinking eyes in the general direction of the noise.

Suddenly the booming microphone cackled out "E. P. Marinella." I squeezed my eyes shut. The next ball would determine whether or not Tom and I would hunt. Only vaguely remembering the sounds of the remaining men, I heard Sickles' voice say, "Marinella—a good one!"

"We did it," I screamed. "We did it, Tom baby, we did it!" The waiting men cheered.

Tom and I hurried over to the table where our licenses were punched, to prove we had been in the Goose Management Area the one prescribed time, and we were given directions to our blind. We stumbled through the few

men still milling around, out into the now strangely empty lot to our car. The time—6:18. Shooting time—6:25.

"Tom, let's fly," I yelled, still reeling from hearing Sickles say "Marinella—good one!" Our drive from the registration building to the parking area for blind number one was like a bomber mission.

We bounced, jarred, jolted, jostled, jilted and rocked our way the entire two-minute flight. Both of us now were screeching in shrill, dissonant harmony. I whipped the ponderous Monster Merc into the parking area. Silent empty cars told us. Late. We were late. "Hurry, Tom!" I whispered urgently, afraid the geese would hear me. Already 6:21. I juggled the dozen goose bodies and loped like Harpo Marx across the mucky, muddy, stubbly field. My "dash" to the blind definitely put me in a class with the Keystone Cops. Zigging and zagging, juggling, slipping and sky watching, all at the same time, I managed not to drop a single decoy or my gun. The sloppy field took only a couple of minutes to navigate.

Tom Not There

I turned around at the blind but Tom wasn't there. "Oh . . . !" I fumed. My watch showed 6:26. Frantically I started to set up the decoys. Eight were up when Tom arrived, sweating and panting like an out-of-shape fighter.

"I dropped two goose heads," he offered sheepishly.

"Put some heads on these birds," I said softly, still worrying about the snoozing geese. Magically a Game Protector appeared to check our blind, our guns and our coats to make sure that we carried only the allowed 10-shell per man limit. He quickly informed us that our decoys should be placed in the muddy stubble field behind our blind. I had arranged them in the grassy field in front of it. The Game Protector said the geese would come out over the woods and wouldn't see the decoys immediately and would

pass the blind by.

It was then 6:35, and scores of low-flying mallards crossed overhead. We didn't shoot, we were waiting for the geese. The two of us somehow moved eight decoys in our flock and Tom was cradling the last four, while I was in the stubble field fawning like a pesky mother over those that were set up. Offhand, I can't remember whether I heard the hair-raising honks first or Tom asking innocently, "Are these two close enough?"

I bolted like a drunk for the blind, where my pump was propped decoratively against the rear wall. Tom dumped the other four decoys. Somehow I managed to reach the blind without falling and grab my gun.

"Should I shoot?" Tom asked.

The geese had their wings set and were so low I almost ducked.

"Should I. . ."

My pump boomed and the bird to my right crumpled.

Tom fired once and his bird began to wobble.

"Again!" I shouted. "Shoot him again!"

Tom spun around and shot again. The goose continued to wobble.

"Again," I croaked.

He shot again.

Still Wobbling

The goose was still wobbling as it hit the ground. Immediately it began to run for the uncut corn on the far side of the stubble field. Tom turned around, giving me a bewildered "what-did-I-do wrong?" look.

I could barely speak. "Run."

So Tom, all 240 pounds of him, crashed out of the blind and began to weave his way awkwardly up the slippery stubble field after his wobbling goose. I was too shocked to move. The goose was too. He had stopped just at the edge of the stubble field and was staring, maybe in utter disbelief, at the puffing buffalo churning his way up the field.

The goose sat perfectly still until Tom was no more than four feet away.



JUGGLING THE GOOSE decoys, I loped like Harpo Marx across the muddy, mucky, stubble field, zigging and zagging, watching the sky. . . .

Suddenly it honked once, flapping its wings furiously and attempted to take off. At that point Tom decided to start running again, but abruptly lurched, tottered, and then crashed forward, landing squarely on the goose. For the second time that morning I howled, hooted, hollered, heaved and collapsed as uncontrollable laughter seized me. Tom was still face down in the stubble field when I regained some degree of sanity. After a few moments he pulled himself up and came trudging back, mud all over except where he had wiped it away from his glasses and around his mouth. The goose dangled limply from one hand.

It was only 6:40 and we had our limit. As we were slogging our way back to the car, muddled, overloaded, exhausted but now quietly exuberant, Tom turned to me with an elflike grin on his mud-smeared face and said, "See."

"See what?" I asked.

"See," he winked—"I told you there was no need to hurry."

New Method of Spoil Bank Reclamation?

By Mort Levy



THIS IS A GENERAL VIEW OF a barren bituminous spoil bank which was stripped in 1945. Such areas may be reclaimed by new procedure.

AS POPULATION increases, urban centers expand, and lands open to the public diminish in the United States, many concerned outdoorsmen are beginning to visualize, with much apprehension, a time when the recreational areas available to hunters, fishermen, and campers will be severely restricted. However, in Pennsylvania, where land and wildlife conservation have long enjoyed top priority roles in the state's consideration of its citizens' recreational and aesthetic needs, the opposite might soon be true. Instead of public acreage decreasing, new forest lands might be opened—in, of all places, the now-scarred and less-than-pretty strip mine regions across the state.

The present optimism is based on the early results of a research program

now being conducted by Dr. William Sopper, professor of forest hydrology at Pennsylvania State University. Dr. Sopper's project has as its goal the finding of an inexpensive technique that will enable strip mine operators to reforest successfully spoil banks that up until now have resisted all attempts at revegetation.

The eyesore problem in these areas is, of course, not a new one to Pennsylvanians, and the state has long wished to satisfy the many conservation and civic improvement groups that have campaigned against the land blight which, in some places, is the result of 50 years of strip mining. In fact, the state legislature, in an effort to make the strip mine operators realize the aesthetic side of life, did enact a law that forced the operators to post

a bond guaranteeing the backfilling, leveling and replanting of areas laid bare, said bond varying from \$500 to \$1000 per acre. But the trouble has lain not in the operators' failing to comply with the law, but in the inability of the seedlings and grasses planted to survive in the highly acidic soil piled up by such mining operations. In recent decades, all attempts at revegetation have failed. Strip mining buries precious topsoil; the acid soil that gets dumped on top is extremely low in nutrients and unable to retain moisture. The dark shale, with summer surface temperatures that often reach 130°, burns plants that might try to take hold naturally. The result is that Pennsylvania has become blemished with ugly spoil banks which, if they could be saved, might provide Pennsylvanians with up to 300,000 additional acres of hunting and recreational facilities. Hence, the deep interest in Dr. Sopper's efforts.

The process by which Dr. Sopper hopes to reclaim much of the state's spoil banks came to him by way of an earlier project which probed into the question of how to dispose of sewage effluent in a non-harmful manner. Dr. Sopper had found that "bad water" could be purified by spraying it over ordinary crop and forest lands and

TANK TRUCK DELIVERS sludge to experimental site where it is pumped through irrigation system to eight of the 10 lysimeters.



GENERAL VIEW OF the 10 lysimeters filled with spoil material from the barren bank shown on previous page. Each contains 25 tons of material.

letting it filter through the good soil, a process by which minerals are returned to the land and potable water is restored to groundwater reservoirs. This process, called "the living filter," also eliminated the need to discharge the effluent directly into streams, where the high nitrogen and phosphorus content of such discharge tends to overfertilize the streams by stimulating heavy growths of algae.

So successful were his tests that Dr. Sopper reasoned that the same spray system might be utilized to purify "bad soil" as well. Aided by a grant from the U. S. Interior Department's Office of Water Resources Research, Dr. Sopper had 250 tons of spoil bank transported to the university from Clearfield County and dumped into 10 specially constructed boxes called lysimeters.

Eight of the boxes were planted with selected varieties of tree seedlings and grasses and then sprayed regularly with controlled amounts of treated sewage effluent and sludge from a municipal treatment plant. The remaining two boxes also received seedlings and plants but never were sprayed. In the course of *one* growing season, the two untreated lysimeters produced absolutely no growth at all, not even a weed, but changes oc-



THIS LYSIMETER received one inch of sludge and one inch of sewage effluent per week, over a 24-week period. Note growth of different types of plants.

curred almost immediately in the eight treated boxes. The once dark shale began turning gray and white. Now, instead of retaining light, the shale was reflecting it. Surface temperature was reduced and plant growth made possible. Seeds germinated; seedlings took hold. One species, black locust, averaged 30 inches of growth during the summer. Grasses and legumes developed the extensive and well-defined root systems so vital for soil revival. The treated boxes had acquired a lush, botanical-garden appearance.

Think What Nature Will Do

"If we can encourage this much growth from seed in one season, think what nature herself will do, given the right assistance, in two or three seasons," was Dr. Sopper's optimistic appraisal. "From a combination of spraying and natural processes, we should be able to rejuvenate the barren mined areas and begin the development of good surface soil. This soil should be

good for plants, good for insects and wildlife, and good for people to look at and live near."

Nevertheless, the study will require several more years in order to be termed scientifically conclusive. "We need to know exactly what will happen in two and three growing seasons," Dr. Sopper states. "We need to know what species survive best, and just what combinations of effluent and sludge make for most efficient growing. We need to know whether the site itself can take over after, say, three years of spraying, whether, in short, natural processes can be permanently restored to spoil-bank mounds. Finally, we want to know what the acidic soil does to the water itself—whether, as with the living filter, it is returned to the water table in a fit-to-drink condition. All these factors are being looked at in our present experiment."

Initial Success Exciting

Still, for the despairing conservationist and dyed-in-wool outdoorsman, the initial success of Dr. Sopper's project makes the adrenalin pump a bit faster and the thought of remaining scientifically aloof hard to bear.

WHITE SPRUCE, black locust and European alder showed vigorous growth during second growing season in treated lysimeter. Untreated lysimeter had 100 percent mortality.



The living filter studies have already indicated that treated sewage can be used cheaply and safely; in areas that have been sprayed, wildlife has flourished and crops for animal feed have been harvested. If the spray process can also be used to give rebirth to lands long given up as dead, the outdoorsman's imagination can't help but conjure up happy visions. In these days when the ecological forecasts seem always to be grim, Dr. Sopper's experiments provide an exciting and hopeful contrast—not only for Pennsylvania's sportsmen, but for all her citizens. To quote Dr. Sopper: "The living filter has demonstrated that waste water can be renovated. Our new experiment shows that it can also renovate the soil itself. The possibilities—economic and aesthetic—for all of Appalachia are exciting to contemplate."



BLACK LOCUST gave best growth among tree species. This seedling was 10 inches tall when planted, grew three feet during following year.

Book Review . . .

A Pictorial History of the Texas Rangers

Whenever talk turns to law enforcement agencies, one group certain to be mentioned is the Texas Rangers—"that special breed of men." The name itself brings alive visions of Western lawmen moving relentlessly along our Southwest's trackless desert regions where even a cactus has trouble living, overcoming nature itself to bring to justice the outlaws such country inevitably bred. This picture is solidly strengthened by *A Pictorial History of the Texas Rangers*, a beautifully bound book which gives carefully researched biographical data on 57 men who served with this organization. And though the written data is highly interesting and informative, it is the photographs—465 of them, most never before published—which make this book so fascinating. Some show Rangers in camp, or working, others show their hard-used equipment—the legendary Colt 45 Single Action six-gun and M95 Winchester lever action rifle obviously the great favorites. But the striking photos are of the faces—often bearded or mustachioed in the early years, with rarely even the hint of a smile, and always those eyes staring out at you—cold, unblinking, alert, distrustful, the eyes of gunfighters who have fought and lived to fight another day. Just to study the face of "Big Foot" Wallace or Leander McNelly or John R. "Border Boss" Hughes or Frank Hamer can take you back a century, can make you understand how Sam Houston could say: "You may withdraw every regular soldier . . . from the border of Texas . . . if you will but give her a single regiment . . . of Texas Rangers." The real thing for Western buffs. (*A Pictorial History of the Texas Rangers*, compiled by Chas. Schreiner, III, Audrey Schreiner, Robert Berryman and Hal F. Matheny, Y-O Press, Mountain Home, Texas, 267 pp., \$20.)

The Big Difference Between the Professional and the Amateur Trapper Is This: the Amateur Traps for Fun, the Professional Traps for Fur. Here Are Some . . .

Professional Fox Trapping Tricks

By Ray Beck



Photo by Leonard Lee Rue, III

THE GRAY FOX IS a prime target of professional trappers. Many take hundreds in a year, while holding down full-time jobs besides.

IT WAS THE night before one of the Pennsylvania Trappers Conventions at the Smith-Elliott State Park north of Clearfield, and a bunch of us who had come early were sitting around the fire shooting the breeze. Half a dozen or so of Pennsylvania's top fox trappers and a sprinkling of professionals from other states were doing most of the talking, and all had

apparently enjoyed a pretty good year.

Surrounding them was a group of schoolboy trappers, fair-weather trappers, and would-be trappers hanging on to every word.

One young fellow sitting next to me turned to a whiskered old guy on his other side, and complained, "I've tried every lure on the market, and I think I have every fox trapping book ever written, and I never make catches like that. What would you suggest I do now?"

"Lie about it like they're doing," said the old fellow disgustedly.

That wasn't the first time I heard somebody doubt the authenticity of the big catches some professionals claim to make, nor the last either.

While there are no doubt some exaggerations, as the old gent with the whiskers implied, I would estimate after years of acquaintance with many of the East's leading fox trappers that at least nine out of 10 make the catches they say they do. I have accompanied some of them on their lines and seen for myself.

Their success isn't due to any secret formula lure that drags the animals into their sets by the nose. They use scent, usually several different kinds, but they are generally the same types advertised in the trapper supply catalogs. They may know a hundred different sets but, as a rule, they use one or two almost exclusively.

No question about it, they know how to trap, but the big difference between the pro and the amateur is as much his attitude as his ability. The

amateur traps for fun, the professional for furs.

Some years back when foxes were more plentiful than they are now, I spent a day on the trapline with a fellow who had caught nearly 200 the season before, while holding down a full-time job as machinist.

A couple of weeks ago, I asked him if he would mind my mentioning it in this article.

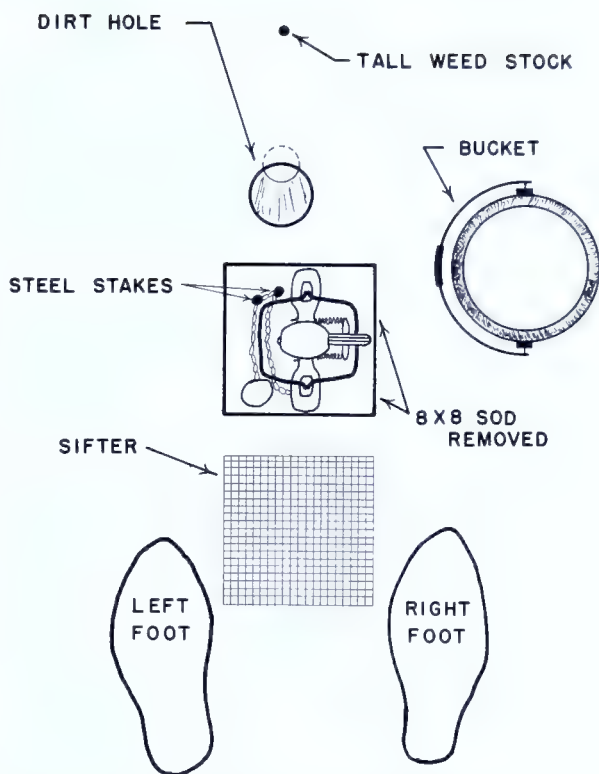
"Go ahead," he said. "Just as long as you don't give my name or where I trap. I don't sell lures or methods, so I don't need the free advertising, and one of the biggest mistakes a trapper can make is bragging about his catches. He is just asking for competition."

I didn't learn much from him I didn't already know about making fox sets that day, but I learned a lot about running a fox line. He used only one set—the old reliable dirt hole. He would jump out of the car, throw two traps and four steel stakes into a tall tin bucket along with his trowel, hatchet, and a sifter made of quarter-inch hardware cloth. A few rods from the road he put on a pair of rubbers used only when making sets, never around home or in the car.

Tall Dead Weeds

As he walked, he pulled on a pair of plastic-coated gloves and broke off and carried along a couple of tall dead weeds such as goldenrod. His sets were made within sight of the road but where a trapped fox would be comparatively unnoticeable—behind a clump of low weeds, just back of a rise in the field, often just a few hundred yards back from the road where a fox could flatten itself in four inches of dead grass when a car came by.

He would put the bucket down and with the hatchet cut out a piece of sod about eight inches square. The trap was set with a piece of previously cut aluminum foil over the pan and under the jaws to keep ground from getting beneath the pan. Two of the steel stakes were driven through adjoining

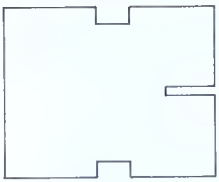


HERE YOU CAN PUT yourself in the trapper's footprints, see the dirt hole setup which takes most of his catch, year in, year out.

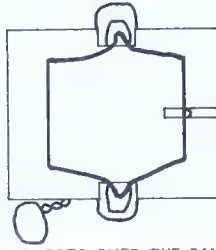
links in the trap chain with the points diverging like an inverted "V" where the sod had been. One 14-inch stake will hold any fox in dry ground, but if an old boar coon comes along, a better anchor is necessary. Two stakes driven this way will hold five times as much as one.

The trap was put on top, its level slightly below the surrounding sod. Pieces torn from the sod were turned upside down and fitted around the springs and outside of the trap jaws. This is a lot easier and quicker than cutting the hole to the exact shape of the trap.

Then, reaching over the trap, with the trowel he dug a tapered hole like a blunt ice cream cone, only bigger, on a 30-degree slant, with the opening toward him. The ground removed was put in the sifter which was between his feet. When the sifter was nearly full, this was sprinkled over the trap as though it had been dug out of the hole by some animal. If there wasn't enough to completely cover the trap,



ALUMINUM FOIL
6" X 8"



FOIL GOES OVER THE PAN
AND UNDER THE JAWS

SPACE OUTSIDE JAWS AND SPRINGS IS FILLED WITH PIECES OF SOD
TURNED UPSIDE DOWN ON TOP OF THE ALUMINUM FOIL



SIFT GROUND OVER TRAP AND THE ENTIRE DISTURBED AREA AS
THOUGH IT HAD BEEN DUG FROM THE DIRT HOLE BY SOME ANIMAL.

ALUMINUM FOIL is used to keep dirt from getting beneath trap's pan. Sifted dirt conceals trap from fox investigating bait in hole.

the hole was deepened to get more. The remaining sod and any stones which didn't go through the sifter were dumped in the bucket to be taken away.

With the tip of a gloved finger, he made a track right over the pan of the trap, using four short marks for toe prints, and a longer one, widened at the back for the pad. It was bigger than a fox track, but that wouldn't matter. A fox would be more likely to step in a large footprint than a small one. Then, the dead weed was stuck upright in the ground six inches beyond the hole.

After removing his gloves, he used sugar tongs to take a piece of tainted woodchuck meat out of a jar in the pocket of his hunting coat and dropped it into the hole. A few drops of lure were sprinkled between the weed stock and the hole.

Finally, the sides of the hole were roughened with a bent table fork to look like the claw marks of some ani-

mal. The ground scratched loose fell down and covered the bait lightly, hiding it from the sharp eyes of bluejays and crows.

By my watch, the whole procedure had taken him just over three minutes, although he admitted it took longer if he hit stones. A couple of rods beyond, he made a similar set, with the bait hole slanting toward the first, using a different lure and baiting it with house cat instead of woodchuck.

"Most foxes will take cat and woodchuck equally well," he told me, "but a few seem to prefer one or the other. The same goes for the lures. I can't see any difference in their attractiveness to foxes in general, but sometimes a fox is wise to one and shies away from it. I have seen tracks in the snow showing a fox had circled one set two or three times, and then walked right into the other. Generally, though, a fox stops at the first one it comes to, and whichever it is, the trap will be between it and the bait hole.

"The weed stock helps too. A fox is suspicious of any backing it can't see over, like a big stone or a stump which obstructs its view. The weed doesn't bother it that way, but would be in the road if the fox wanted to dig from the back of the hole."

Two Foxes

Later, as he braked the Chevy to a stop beside a field of poverty grass, I saw a red fox drop to its belly and flatten out a few rods from the edge of the woods a few hundred yards away.

"You've got one," I said.

"I've got two," he corrected me. "There's another one behind that patch of weeds. I can see its ears."

He handed me the binoculars. Even with them, it took me a little while to locate it.

We got out, pulled on our rubbers, and trotted back. A tap on the nose with the trowel stunned the fox, and a hard chop back of the ears with the edge of his hand finished it off. Quickly, he slipped a canvas bag over

its head, and jerked the drawstring tight.

"There," he said, "if it bleeds, it won't get any on the ground to warn other foxes, and if it's playing possum, it can't see to get away."

Both places were all dug up, but he quickly remade the sets by putting ground and pieces of sod in a horse-shoe shape around the back of the holes, and setting the traps as before.

"All that disturbance won't bother the foxes a bit, because it was done by another fox," he said. "In spite of the looks, those sets are better now than they were when I first made them. I like to use double sets like this because a fox in one trap is the best possible attraction for bringing a second fox to the other. If a fox manages to steal one bait without being caught, I have a second chance when it tries to get the other one. My aim is to catch as many foxes as quickly as possible. I never leave a trap in one place for more than a week."

"But suppose you have a smart old fox taking your bait every night without getting caught," I protested, as we threw the two foxes in the trunk of the car. "You don't just pull stakes and forget about him, do you?"

"That's just what I do," he told me. "I could probably get him in a week or so, but in the time I wasted on him, I could catch a couple dozen others over in the next township. I'd rather have the extra fur than the satisfaction of outwitting one smart old fox."

"Well, wouldn't it pay you to make a few other kinds of sets instead of all dirt holes?" I asked. "That way you could get some of the educated ones that avoid your regular sets."

"I don't believe it would," he answered thoughtfully. "Other sets take longer to make, and many can only be made in special locations. If I could be sure that only those smart, trap-shy ones you are talking about would get in them, it might be all right, but what's to keep some eight-month-old pup, or even a possum, from blundering in? Then I'd have wasted half an

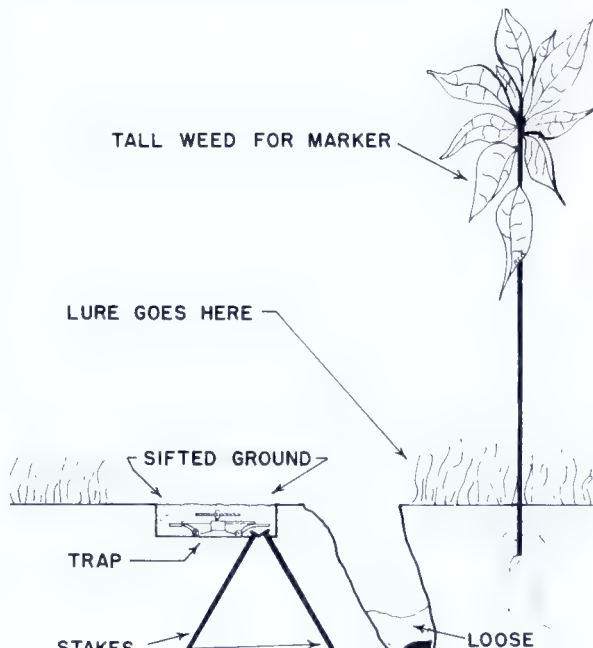
hour or so on a set that couldn't be repaired after making one catch. The more foxes caught in a dirt hole, the better it gets, and as you just saw, it can be remade in a few minutes."

My friend admitted that by trapping within sight of the road he lost quite a few foxes to thieves. "More than a lot of trappers catch," he said with a wry grin. "But I can take care of around 150 traps this way, which is five times as many as I could if I tried to run a line on foot."

"As long as I can see the weed stock I stuck behind the dirt hole, I know I haven't made a catch, for the first thing a trapped animal does is circle as far as the chain will allow, and that knocks the weed down. The law says I must visit my traps every 36 hours, but there is nothing in it saying how close I must go when I visit them."

"I not only save time by checking my traps from the car with binoculars, I don't leave scent around to scare the foxes like I would if I walked right up to my sets every day. There is less chance of attracting fur and trap thieves too. I do make a closer inspec-

CUTAWAY VIEW shows complete setup from the side. "Planted" weed makes fox approach in direction wanted by trapper, also is useful when checking traps.



tion on the third or fourth day if I haven't made a catch sooner. Sometimes a bird will dust itself and uncover the aluminum foil over the trap, or a hard rain may wash it bare, but aside from that, the traps seldom need attention unless they make a catch."

We got back from the line late in the afternoon with eight foxes—five reds and three grays—as well as half a dozen coon and several opossums. The coons and opossums were left with a fellow who skinned and stretched them for a third. Twenty new sets had been put out, and 20 old ones taken up.

No time had been lost looking for set locations. The whole area had been carefully prospected, and the spot where each trap was to go, decided on earlier in the fall. It takes a lot of locations to take care of 150 traps when they are moved four or five times during a season, but he said he had looked over three times as much trapping country as he would actually use.

"If foxes are scarce in a section, I let it rest for a year or two," he explained. "It isn't just conservation, it's

common sense. Some fellows seem to think that with the right lure and methods they should make big catches anywhere, but where foxes are few, the catch is bound to be small. The same time and effort a few miles away might produce 10 times as much fur."

I helped him skin the foxes and tack them flesh side out on wooden stretchers. Seven that he had caught two days before were turned and returned to the boards, fur side out.

"I've got to get to bed," he told me as he stroked the glossy fur of the final one. "I have to go out to work tonight at 11. My wife will take the car down town, fill it with gas and check the oil so it's ready for me in the morning. She keeps the traps boiled and waxed for me too. I could spend another hour on the trapline if I could just get her to skin the foxes yet."

I chuckled and left for home, thinking that catching 40 or 50 foxes in a season is great sport, but catching four times that many isn't four times as much sport. It's just a lot of darn hard work.

Book Review . . .

A Complete Field Guide to Nests in the United States

Suppose you are tramping through a field and spot a nest hidden beneath a tuft of grass. It is made of grass and weeds, covered by a dome-shaped grass roof, and is about 6½ inches wide and 7 inches high. Whose nest is it? If you don't know, you can hunt for someone who might, dig through a variety of reference books—or you can look in Richard Headstrom's new book about nests and learn that the nest belongs to the Eastern meadowlark. The book is an enlarged and updated version of his earlier (1949 and 1951) books about bird nests. A little more than half of the new book is about bird nests, whereas about a fourth pertains to mammals, and the rest to insects, fishes, reptiles and amphibians (the last two get four pages). The book is meant to be a field guide, although it is larger than most. Its approach is from the general to the specific. For example, under "Nests Above the Ground" there are such categories as "Hanging or Semihanging" and "Containing a Layer of Mud." And under these categories are further breakdowns that pinpoint the builder of the nest. By using the index, the book can also be used to find out where and how a particular animal builds its nest. This book certainly deserves a place in the library of anyone interested in the details of nature. (*A Complete Field Guide to Nests in the United States*, by Richard Headstrom, Ives Washburn, Inc., N. Y., 1970, 451 pp. plus 24 pp. of illustrations, \$10.)

Wintertime Sleepyheads

By Wilbert Nathan Savage

THROUGHOUT the North American continent, millions of nature's wild creatures annually spend the winter months in hibernation—a dormant state that encompasses varying degrees of intensity and duration. Fulfilling her timeless obligations as seasonal hostess, Pennsylvania provides winter accommodations for a robust share of these cold-weather snoozers—with species classification ranging from the meadow jumping mouse to ponderous bruin; from spring “peeper” frog to brother woodchuck; from the little brown bat to box turtles and chipmunks. And from garden toads to copperheads, rattlers, and all other snakes.

Although hibernation is so common and extensive that you could scarcely go afield in winter without passing over the underground sleeping quarters of several different forms of torpid life, many mysteries continue to tenaciously surround the long-term coma. The exact nature of forces that



Photo by Leonard Lee Rue, III

CAREFULLY EXCAVATED burrow shows a snoozing woodchuck — perhaps Pennsylvania's champion hibernator—who deals with winter by ignoring it.

trigger the inactive condition, and the influence-key to its systematic end—these are some of the elusive facets currently puzzling those devoted to study of the phenomenal sleep.

No matter how you classify animal life, just two groups of undomesticated year-round residents emerge in areas where King Winter must be reckoned with—those able to obtain food and achieve physical adjustment to the snowy season, and those which cannot. For the latter the only alternative to death is hibernation, and some creatures have succeeded to a greater degree than others in developing the sleep-scheme into a condition that is truly extraordinary in its every fine-tuned detail.

Any listing of the best-known true hibernator in Penn's Woods would

surely have to accord number one rating to that old pro, the woodchuck. In examining his credentials as a deep sleeper, we note right off that he's a no-nonsense slumber artist. Curled comfortably in his underground nest, the hibernating chuck sinks into a



Photo by Leonard Lee Rue, III

THE CHIPMUNK also is a true hibernator. He starts to think about his winter sleep when the temperature touches the 50°F. mark for a few days.

period of inertia which reaches a point actually nearer to death than it is to normal sleep. It may require many hours, however, or even days for M. Monax to reach the full intensity of his coma.

Now some very remarkable things begin to happen. The chuck's normal body temperature averages about 98.6°F. Incredibly, a natural modifying influence drops his temperature to about 45°F. It could go to 37°F. without registering a fatality. The normal pulse rate of 80 to 120 beats per minute now ranges from three to 10. Respiration drops from a normal 25 to 35 breaths per minute to a startling rate of as little as one breath every five minutes!

Snug in his soundless world of nothingness, the chuck's metabolism has progressively geared itself down to about 10 percent of normal energy output. Blood barely trickles through

the quiet animal's body, and his oxygen need is only about one-twentieth that of average summertime requirements. For months to come he'll live off the fat instinctively accumulated earlier. (Curiously, the fat which supplies body fuel during hibernation is different from ordinary fat. It is darker, and decreases at a slower rate than deposits of regular fat carried the year round.)

The meadow jumping mouse is another true hibernator eminently able to bank life's fire so that a remnant spark barely sustains him. Becoming exceedingly fat in early fall—often too fat to jump!—the meadow jumping mouse has been known to snooze from late September until mid-May. Interestingly enough, these little creatures are so visibly affected by cold that they have been known to show signs of drowsiness when August nights became unusually cool.

Sensitive as they seem to be, however, meadow jumping mice may hibernate well up into the frost line scarcely three inches below surface level. One well-documented example of this apparently hazardous habit of shallow hibernation is mentioned in the Final Report of Pittman-Robertson Project 37-R. The report refers to a meadow jumping mouse unearthed in November in Bradford County by a construction crew. It was in a nest of leaves and grass only four inches below the surface. There seems to be common reference elsewhere to such selections of scantily covered hibernating quarters. Since any formation of ice within the body of a warm-blooded animal is supposed to be fatal, one wonders just how the little meadow jumper can occupy frost-zone levels and still come out hale and hearty in the spring. Is it possible that nest materials—and perhaps the creature's own furry winter coat—afford a measure of insulation greater than we've reckoned?

The meadow jumping mouse has been artificially induced into a state of hibernation by leaving him in a

refrigerated room for 17 hours. Upon being shifted to a moderately warm room, the hop-along meadow dweller began to stir and opened his eyes in 45 minutes. (By way of comparison, clover-lovin' old Monax has almost invariably shown total resistance to such brazen tampering with his anatomy.)

The natural hibernating posture of the jumping mouse always finds the long tail completely encircling the curled-up body—a motionless form rigid and cold enough to deceptively suggest that life no longer exists within the ball of fur scientifically known as *Zapus hudsonius*.

Chipmunk

When autumn temperatures hover close to 50°F. for a few days, another creature starts to nod and wobble in an almost comical dead-for-sleep manner. Although he has stored quantities of winter food in his burrow system, he will reach a true state of hibernation and may not awaken to nibble his grub supply for a month or more. If you've pegged identity of this fellow as the eastern chipmunk, you've earned an A-plus.

Since the chipmunk does not accumulate as much fat as most true hibernators, it is necessary for him to arrange storage of select tidbits for periodic snacks. During these brief waking moments he may even take a peek outside. If weather conditions seem reasonably favorable he's apt to set his alarm clock for a late February or early March try at bringing the seasonal slumber-hold to an end. In the event that Chippie does venture out in late February only to be jolted by a severe taste of lingering winter, he dashes back to bed and remains there until late March or early April.

In offering proof that he's a true hibernator, the chipmunk's winter sleep pattern reduces his breathing from a normal 150 inhalations per minute to six, and when fully in dreamland you could pick him up and perhaps bounce him a bit without causing him to flicker an eyelid in

protest. His temperature drops to a few degrees above that of the surrounding air, and the vigor and frequency of his heartbeat become greatly diminished.

Bats are among the champion deep-sleepers of the world, and the various resident species seem almost without exception to prefer hibernation to the common risks of migration—an escape alternative frequently practiced by bats in certain latitudes.

Caves are favorite hibernating quarters for bats, and Pennsylvania is fairly well supplied with these natural shelters. Winter-sleeping bats ordinarily hang by their hind claws, head down, with their wings folded close to their sides, and their bodies often wedged into a protecting niche. With very little deviation, bats are able to keep their body temperature three to six degrees above that of the surrounding air. In some instances, however, the body temperature of bats has been known to fall below freezing and hoarfrost has been photographed coating their fur. If the temperature of

MANY PEOPLE BELIEVE the black bear hibernates, but this is not true. His winter sleep is almost identical to normal slumber and he awakens easily.





BATS ARE AMONG THE champion deep-sleepers. Most of those in Pennsylvania prefer hibernation—usually in caves—to the risks of migration.

the hibernating quarters happens to be about 34°F., bats will go into a deep coma and scarcely move for months at a time. But if the temperature generally holds at 50°F. or slightly higher, they sleep in restless fashion, waking often and moving about, sometimes to the point of seeking food and water.

Although they may have reached a profound state of hibernation, bats remain sensitive to touch and vibrations. Records kept during a study of the little brown bat showed a normal body temperature of 98.6°F., while the temperature during hibernation was barely 36°F. His heartbeat normally ranged from 400 to 700 beats per minute—depending on how excited or exerted he happened to be—but in the hibernating position the pulse rate dropped to seven to 10 beats per minute. The breathing of almost any hibernating bat may drop to less than one breath per minute, and some observers say this can extend to as little as one breath every three to five minutes. But further research brings to light the fact that

before the winged mammal can fly, respiration must rise to about 200 breaths per minute.

Bats become exceedingly fat in the fall, sometimes doubling their normal weight. For reasons not yet understood, there is also an enormous increase in the number of white corpuscles in the blood of hibernating bats. Peculiarly, too, the weight of the adrenal and pituitary glands drops to half the summertime normal. And still another chemistry change in the hibernating bat's body has to do with a considerable increase in the production of insulin. Hibernating singly, or in quantities running into the hundreds or thousands, it is not particularly uncommon for bats to sleep almost seven months—from late September until the latter part of March each year.

Although controversy has been known to rage to the contrary, the black bear is not a true hibernator. While the bear's winter sleep may be unbroken over a considerable period, bruin's body temperature generally holds at only a few degrees below the summer average. The breathing tempo of the lumbering animal is also about the same winter and summer, and his pulse rate shows little variation whether he's awake in July or snoring in January.

Male Bruin Often Active

If food is available, the male black bear may remain active throughout much of the winter, no matter how cold and blustery the weather. And even when he does seek a den he often selects a spot where cover is so incomplete that he ends up more exposed than canopied—a situation which sometimes finds his body heat effectively utilized to melt any snow drifting in against the formidable hulk.

The female bear also seems almost traditionally to shy away from bedtime urges until the last minute. She often stays out and active through December's cold, finally retiring to a suitable den only a short time before

giving birth to her midget-size young in late January.

All snakes found in Pennsylvania are hibernators. They do not have to adjust body temperature downward, however, for their temperature at all times is mainly influenced by, and is close to, that of the surrounding air. Perhaps the most noteworthy winter behavior of snakes is their habit of forming hibernating balls. These clusters of intertwined bodies vary in number from two or three to hundreds, depending on the snake population and available space. This system of "togetherness" helps to conserve moisture and to assure a more uniform temperature throughout the squirmy lot.

Snake Hibernation

Copperheads and rattlers prefer to hibernate in rock crevices or thick ledges where they can reach a below-the-surface depth of three to four feet. Conversely, the water snake and the garter snake have been unearthed at levels only six to 11 inches below the surface. In all hibernating snakes the body function processes are sharply slowed, and they reach a deep state of stationary torpor.

Most snakes have a definite homing instinct and are capable of traveling in a fairly straight line to their winter hideaways. Rattlesnakes have been observed making their way toward known den sites as early as the first week of October. The garter snake is believed by many to be the last snake to hibernate in the fall and the first to appear in the spring. A common and very old superstition has it that spring's first thunderstorm awakens all hibernating snakes and sets them astir in their dens. Oddly, perhaps, hibernating snakes lose very little weight during their long span of inactivity. Some that were actually weighed before and after hibernation showed no weight loss at all. Others, after five foodless months, dropped up to 10 percent of their avoirdupois. All indicated observations involved only non-poisonous varieties.

The strolling countryman is sometimes privileged to come upon a spring-awakened common box turtle whose arrival above ground is so recent that his shell still bears traces of earth in which he'd wintered. Remarkably, this armored creature's oxygen requirement during hibernation is incredibly close to zero on the measuring scale—even though he may be tightly ensconced 16 inches or more below the surface and locked in a sleep schedule running from October to late March or early April.

By mid-March you're apt to hear the sounds of yet another hibernator emerging from total dormancy—the "spring peeper," smallest frog in North America. He's been in hibernation since October and now is eager to be heard. Toads are less ambitious, and those that went into hibernation as early as mid-September may snooze a

ALL PENNSYLVANIA snakes are hibernators. Copperheads and rattlers prefer rock crevices where they can get three to four feet beneath ground level.



foot or so underground until late April. Curiously, hibernating toads work into the ground backwards, throwing the earth out with sideways movements of the hind feet.

Most Things Unknown

Many strange and fascinating facts are known about hibernation. But, once revealed, the things that we do not know would fill a much larger book. We know that mammals such as the meadow jumping mouse (and his cousin, the woodland jumping mouse, who sleeps just as soundly) automatically drops its temperature one to five degrees per hour when entering the hibernating trance, later accelerating to six to seven degrees per hour. In emerging from dormancy the same mammal can speed temperature rise at the rate of 20 degrees in 35 minutes.

It is known, too, that in a certain part of the woodchuck's brain—the hypothalamus—there are nerve cells which control vital functions, including the condition of being awake or asleep. And it is known that if a hibernating mammal becomes dangerously cold, a special mechanism goes into action and releases adrenaline into the bloodstream. This causes the animal to awaken so that it can either improve the insulation of its dwelling or move to a warmer spot, thus avoiding the peril of freezing.

The problem attached to all these things we do know is that we only know they occur; we do not know how the processes operate.

But no matter how little we are able to understand about the secrets of hibernation, one conspicuous and redeeming fact triumphantly emerges from the haze: Pennsylvania can lay claim to having what has to be the best-known hibernator in the world. Known to millions, he has his day annually as a stellar Commonwealth figure much sought after by the communications media. An entire city has made him an idol and a consultant, and multitudes of school children affectionately know him by his first name—Phil, the Punxsutawney Groundhog!

REFERENCES

Animal Kingdom, March-April, 1954 (published by New York Zoological Society).

The New Book of Knowledge, 1968 edition.

Animals, by Ernest Thompson Seton.

Wonders of the Fields and Ponds at Night, by Jacquelyn Berrill, Dodd, Mead & Co.

Field Book of Animals in Winter, by Ann Haven Morgan, Ph.D., Putnam, New York City.

Animal Clocks and Compasses, by Margaret O. Hyde, McGraw-Hill, New York City.

The Saturday Evening Post, February 21, 1953.

Winter-Sleeping Wildlife, by Will Barker, Harper & Row, New York City.

Compton's Encyclopedia, 1937 edition.

The Life Nature Library.

Illustrated Encyclopedia of Animal Life, 1963 edition.

Our Natural World, by Hal Borland.

Mammal Survey of Northeastern Pennsylvania, Final Report, Pittman-Robertson Project 42-R.

Mammal Survey of Northcentral Pennsylvania, Final Report, Pittman-Robertson Project 37-R.

Outdoor Booklets Available

Jack Van Coevering, well-known outdoor writer, through the years has put out a number of useful booklets on various phases of the outdoors. Some have sold over a million copies. Still available, though the supply is limited, are "Tips and Tricks for Outdoor Folks," "Hunting for Fun," "Care and Repair of Outdoor Equipment," "Fun With Bow and Arrow," and "Catch Fish." Price is 25 cents each or five for \$1, postpaid, from Van Coevering Productions, 2133 Medford Road, No. 11, Ann Arbor, Mich. 48104.

Harbinger of Spring

By Ken Calnon

AN INCH OF newly fallen snow covered the ground with whiteness and dark storm clouds still swirled across the sky, sputtering an occasional snowflake. In the swamp, strange pointed hoods stood above the snow. Inside the hoods were bizarre, ball-like structures, with small yellow flowers sticking out.

This unusual plant is skunk cabbage, and believe it or not, it is a wildflower! The very first of the season. Undoubtedly, skunk cabbage is far from the most beautiful wildflower, but after a long cold winter it is good to see any kind.

From mid-February on, skunk cabbage can be observed pushing its pointed hoods through the soil of swamps, low stream banks, springs, or any place where it can find sufficient moisture.

The hood is called a spathe, and it protects the flower from the uncertain weather of early spring. An opening allows the bees to enter the spathe to pollinate the flowers. The round structure is the spadix. It has a wrinkled tannish-colored skin and is uniformly covered with flowers.

Honeybees also appreciate the skunk cabbage and eagerly seek its flowers. On a warm spring day the swamp near my home buzzes with the sound of many honeybees visiting its flowers. On several occasions, where the hoods have not opened enough to expose the



Skunk Cabbage

flowers, I have observed that the bees in their eagerness chewed holes through the hoods to reach the flowers.

How did skunk cabbage get its name? From the offensive odor it emits when a part of the plant is broken or crushed.

After the flower has served its purpose, it withers and dies. By this time the new leaves have already pushed through the ground and are several inches high. The plant grows rapidly, spreading its leaves until it measures two or three feet in diameter.

GAME NEWS Price Increased

An increase in the price of GAME NEWS was approved at the October meeting of the Pennsylvania Game Commission. Effective July 1, 1971, subscription prices for the magazine will be \$2 for one year, \$4 for two years and \$5 for three years. Single copy price will be 25 cents. Subscriptions at the current price of \$1.50 per year or \$4 for three years will be accepted, to a maximum of three years, through June 30, 1971.



EXECUTIVE DIRECTOR Glenn L. Bowers welcomes deputies to revolver match, above. Below, PGC personnel who helped conduct the match. Bottom, deputies on the firing line for the statewide meet.



RANGE OFFICERS
the men who fired t



Deputy I

AS PART OF THEIR Protectors compete summer. At the last s Scotia Range near Sta High individual was scored 272 out of a po by Henry Klausfelder v both deputies of Bucks man team—D. Himes, I came from the Northw score of 994.

DGP RON CLOUSER, rig
deputies who participated





scoring targets, as

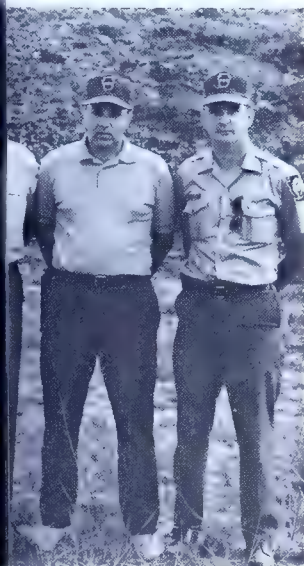


OFFICIALS RECORDING scores, above. Below, Director Bowers presents award to Deputy R. Hixson, of Boyers, who led District 1-10-1, Butler County, team to first place in match. Bottom, another view of deputies firing.

r Match

raining, Deputy Game
le revolver match each
August, 1970, at the
4 deputies took part.
of Canonsburg, who
ints. He was followed
l Dave Dormann, 261,
Bill Lockett. Top four—
Miller and R. Hixson—
and turned in a total

up of Lycoming County





FIELD NOTES



This We'd Have to See!

LANCASTER COUNTY—No doubt all Game Protectors are told how a hunter killed a piece of game by mistake and then reported it or was apprehended for killing illegal game. During October I received a call to investigate a mistaken kill: a 9-point buck deer allegedly was killed in mistake for a gray squirrel. — District Game Protector W. E. Woodring, Ephrata.

Aw, Come On, Jim!

MIFFLIN COUNTY—On the night of November 6, in Menno Township, while checking for jacklighters, Trainee Ramsey and myself were rudely interrupted by a 6-point buck which buckled our car door. After the attack he turned and walked away with one stop to look back. Checking the damage we found he had hit the deer head emblem on our door.—District Game Protector J. D. Moyle, McVeytown.

The Good and the Bad

MONTOUR COUNTY—Deputies patrolling Farm-Game cooperative projects here in Montour and northern Northumberland Counties have contacted the landowners throughout the season and a review of their reports shows that the farmers are impressed that more hunters have stopped to ask permission to hunt than ever before. This is a step in the right direction; it will help to keep lands open for hunting for future years. But two acts committed by hunters on cooperative farms will receive more publicity and cause lands to be posted. One pertained to a group of hunters that hunted in the posted safety zone and on unharvested cornfields. When asked by the farmer to observe the signs, they told him they had hunting licenses and the game belonged to the state, so they would hunt where they pleased! The other involved the shooting of two hogs in a pasture. Shot with shotguns, one was wounded so severely that it had to be disposed of immediately. Why farmers get angry and Game Protectors get prematurely gray!—District Game Protector R. W. Donahoe, Danville.

Go Where They Are . . .

LUZERNE COUNTY — Pennsylvania's deer hunting reputation must be very good because I checked a non-resident, Cy Tuhy, who came all the way from Tucson, Ariz., to hunt deer here in the Poconos.—District Game Protector T. Vesloski, Plains.

Rough on Reloaders

FULTON COUNTY — Recently I saw a gray squirrel with a bright yellow object in its mouth. The squirrel dug a hole and deposited the object, carefully covering it with its nose and forepaws. I thought it had a May apple, but couldn't imagine where he'd find one in the fall. I dug it up and found it was a fired 20-gauge shotgun shell. He had probably read in the squirrel manual that to deliver a severe blow to the enemy, destroy his ammo.—District Game Protector C. E. Jarrett, McConnellsburg.

More Than He Could Chew

WASHINGTON COUNTY—Joseph Wozolek of Brownsville was hunting near the Daisytown area when his beagle flushed a pheasant. The pheasant landed near a large brushpile and the dog repeatedly tried to rout it. The dog would enter the brushpile, bark, and then retreat. Curious to see what was making his dog act this way, Mr. Wozolek investigated and found a large groundhog had taken refuge there and was not about to be routed by a dog. A brief scuffle occurred and Mr. Wozolek led his dog away from the pile, only to have it return as soon as released. To solve the problem he decided to shoot the groundhog. Mr. Wozolek poked his shotgun barrel into the brushpile, almost touching the groundhog, and pulled the trigger. At this split second, the groundhog grabbed the gun barrel with his teeth. Result: one mushroomed shotgun barrel and one dead groundhog. Mr. Wozolek stated that he has told this story to everyone so that they may learn never to fire a gun when the barrel is not clear and free of all objects.—District Game Protector J. M. Kasakavage, East Washington.

Point of View

DIVISION WIDE—On Thanksgiving morning some hunters and trappers were checked by this officer in Penn Township, Berks County. The first were two trappers, one of whom was combining the two sports, and he said, "Nah, there's nawthin' ta hunt!" About this time, two other hunters approached and between them they had three cockbirds and a rabbit. They had seen several other rabbits but were unable to get a shot. Three more hunters then came out of the nearby chop-off and they had been no more successful than the trappers. These men were told by the successful hunters that they ought to get themselves a dog. The area where this took place is probably one of the best pheasant hunting spots in the state. It sure is apparent that success changes a person's outlook.—CIA Southeast Division L. E. Bittner, Leesport.



Look Me in the Eye

VENANGO COUNTY — While checking deer the first day of buck season, I noticed one very shot up deer. I asked the Ellwood City area hunter why it was so hard to kill and his reply was that he thought that when a deer died its eyes closed, so he kept on shooting.—District Game Protector L. C. Yahner, Franklin.

Don't Quote Me!

WAYNE COUNTY—Accused of being a publicity hound by some of my fellow officers, I decline to make any comment this month.—District Game Protector F. G. Weigelt, Galilee.

Car Kills Giant Buck

DELAWARE COUNTY — On November 2, 1970, I picked up the largest deer that has been killed in Delaware County since I have been here. It was struck by a car on the Media bypass and was a fine 8-point buck. The deer weighed 272 pounds live weight, and hog-dressed, after hanging all day, went 223 pounds. The buck had a large rack and was approximately 4½ years old.—District Game Protector R. C. Feaster, Aston.



Hungry

FOREST COUNTY — During the past month, I received two complaints of bears breaking windows and trying to enter houses. Also received a complaint of a bear tearing the whole corner out of a building that had bees in it.—District Game Protector G. W. Miller, Marienville.



Just Call 'Em Rock Pickers

TIOGA COUNTY — While chatting with my four-year-old son one evening, the subject turned to my occupational duties. He wanted to know if I still “arrested” people. Upon receiving a positive answer, he remarked, “Oh, I thought that now you are a Land Manager, all you do is pick rocks off the road.”—Land Manager D. W. Brown, Westfield.

Help Needed

FULTON COUNTY — Two boys brought a squirrel to my office for identification, and I had to admit that I had never seen one like it. It was fox squirrel size with a typical fox squirrel tail. The back was gray squirrel and the belly and chin were jet black with no red shading between back and belly. Years ago Game Protector Jack Troutman and I checked a hunter with a similar squirrel except that the belly was snow white. If my memory serves me correctly, a **GAME NEWS** cover showing the various squirrels indicated that one was the Marnes squirrel. If anyone can help me with the black-bellied one, I'd appreciate hearing from you.—District Game Protector C. E. Jarrett, McConnellsburg.

Ought to Count Our Blessings

LYCOMING COUNTY—This past month PR-Area Leader C. M. Laird and I talked with a Mr. Buller at one of our food plots on SGL 75. This man was hunting turkeys, but the part that impressed me was that he had suffered an illness and was confined to a chair to do his hunting. Despite this handicap, Mr. Buller seemed to be enjoying the day very much and I thought then and many times since of the numerous complaints we receive from sportsmen who are able to walk into the woods and enjoy the wonders of nature but still complain of so many minor things.—Land Manager D. E. Watson, Williamsport.

Game-Hog's Goof

ADAMS COUNTY—While on patrol accompanied by Deputy Warnick, I noticed a package that had been disposed of along the bank of a small stream. Its appearance suggested it might contain an illegal deer hide, so I investigated. Instead of a hide I found a small freshly skinned deer carcass. Would you believe someone threw away the wrong bag? The original owner of this illegal deer can claim same if he would like to contact this officer.—District Game Protector J. J. Troutman, New Oxford.

Efficiency Expert

TIOGA COUNTY—Here's a little thought passed on to me by a grouse hunter who can't seem to hit a grouse. He thought the Game Commission ought to breed a strain of grouse that would beep before they took off. He figured about 10 seconds before.—District Game Protector F. A. Bernstein, Knoxville.

More Problems

CLEARFIELD COUNTY—During the past few months I have received an increasing number of complaints about the use of all-terrain vehicles, trail bikes, etc., on private property. If the people who use these types of vehicles do not obtain permission from the landowners before going on private property, we will lose more ground to No Trespassing signs.—District Game Protector C. L. Keller, Clearfield.



Experience Is Best Teacher?

BLAIR COUNTY—One of my neighbors has a young daughter who is enjoying her first year of hunting. On the opening day of small game season she accompanied her father and they were lucky enough to get a nice ringneck. Upon their return home she insisted on helping her father clean and prepare the bird for the table. Their next trip they killed a rabbit and on their return home she offered to clean it on her own. Her father granted this request and then proceeded to read the evening paper. You guessed it. When her father checked on her he found the rabbit already scalded and the daughter busily picking rabbit fur.—Land Manager Jack DeLong, Roaring Spring.



Different Kind of Trophy

LYCOMING COUNTY — A man I was talking to reported that while hunting turkeys on November 3, he didn't see any turkeys but did kill a large rattlesnake. This was probably due to the warm weather during the early part of the season. — District Game Protector P. A. Ranck, Williamsport.

Hunters Not Always to Blame

JUNIATA COUNTY—Just prior to the opening of the small game season, I heard of a farmer who was thinking of posting his land. I knew that his land had always remained open to public hunting, so I asked him whether he might have some problem I could help with. He stated that in one day he had encountered a man in his cornfield pulling a few ears for his son to use on Halloween, while parked in his woods was another family that was hunting for old bottles, and back in his woodlot was another group picking his walnuts. None of these persons had the courtesy to request permission. It is obvious from this that not all posted land is due to the actions of the hunting public.—District Game Protector R. R. Shaffer, Mifflintown.

No Annie Oakley

JEFFERSON COUNTY — Fish Warden Duvall described his wife's shooting ability like this: "If you have a deputy watch her the first day of the deer season and she gets to shoot at a buck, you'll be able to arrest her for shooting at random." If Ruth hears this, Duvall better have been telling the truth. — District Game Protector H. G. Stankewich, Valier.

Convinced

BEAVER COUNTY—Deputy Randy Bogolea related the following incident. The first night of trapping in answer to a raccoon complaint was successful. When he arrived at the house to pick up the raccoon, he found that the man of the house had reached into the trap to pick up the "cute little raccoon." As a result of this, it required nine stitches to repair the man's hand. He stated he did not mind that so much as his wife laughing at him as he was trying to shake the raccoon loose. He also told Randy not to reset the trap. He thought it would be easier just to set up the garbage can in the event it was upset again.—District Game Protector G. T. Szilvasi, Washington.

DGP Lingo

NORTHWEST DIVISION — Once in awhile you hear some of our officers come up with a real humorous remark, such as one overheard on the division office radio one night. A Game Protector radioed one of his deputies and inquired whether there was any action over his way. The reply was, "Lots of lightning (meaning spotlighting) but no thunder (meaning no shooting)."—Supervisor L. E. Sheaffer, Franklin.



CONSERVATION NEWS



Pymatuning Waterfowl Hunters Have Best Year

Pymatuning Waterfowl Area hunters had their best year on record in 1970, according to the annual report compiled by Waterfowl Management Agent Ray M. Sickles.

Hunters harvested 2917 geese from the Pymatuning blinds this year, compared to the old record of 2580 taken in 1968. Just one year ago 2416 geese were taken.

In addition, an estimated 700 geese were taken outside the controlled shooting area for a total goose harvest this year of 3617. In 1968, hunters took a total of 3630 geese from the Pymatuning area. The figure last year was 3216. Sportsmen also did well on ducks at the Pymatuning, taking 2429 from the controlled shooting area. By comparison, 2304 ducks were taken last year, while 2503 were taken in 1968.

More than half of the ducks taken this year were mallards. Significantly increased harvests of wood ducks, pintails, baldpates, gadwalls, blue-winged teal and ring-necked ducks were registered, while a sharp decline in the number of black ducks taken was noted.

Sickles said this year a record 4042 hunters used the 40 goose blinds constructed and maintained by the Game Commission, compared to the previous mark of 4012 set last year. Holders of goose blind reservations were selected from a record of 26,208 applicants in an early October drawing. Each reservation holder was permitted to take three guests to his blind. A total of 3336 gunners utilized the controlled duck shooting areas, another new record. The old mark was 2843 established in 1968. The figures add up to a grand total of 7598 hunters using the Pymatuning controlled shoot-



WILLIAM R. JACKSON, Pittsburgh, got his Pymatuning goose the hard way, with a 12-gauge muzzle-loading percussion gun built in England by Middleton about 1860. He used 1½ oz. of No. 4 shot and a heavy charge of FFG black powder.

ing areas in 1970, compared to the old record of 6628 set in 1968.

Of the hunters using goose blinds this year, 72 percent took a honker, another new record. The previous mark was 68 percent in 1968. The goose harvest age ratio this year was 1 adult to 1.4 juveniles, an indication of good reproduction of honkers in 1970.



Marshall E. Jetty

Jetty New Commissioner

MARSHALL E. JETTY of Brockway, Jefferson County, has been sworn in as a member of the Pennsylvania Game Commission.

Jetty, a Texas native with extensive business experience, was a railroad trainmaster and superintendent for 15 years, served as a purchasing agent and personnel manager for 14 years, and was president and general manager of Brockway Pressed Metals from 1954 until his recent retirement.

He is chairman of the board of Brockway Pressed Metals, president of Brockway Realty and Investment Company, and a director of DuBois Deposit National Bank. An active Kiwanian for 25 years, he served in the posts of governor, international trustee and international treasurer of that organization.

An avid trapshooter, he owns five English setters, is a fly-fisherman, and a veteran of 40 Quebec and Ontario hunting trips.

Jetty replaces Russell M. Lucas of Philipsburg, who served on the Commission since 1956.

Deer Mortality Up for First Eight Months of 1970

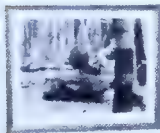
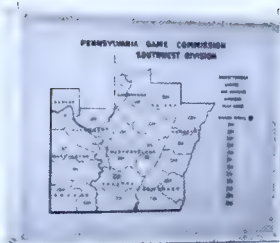
Deer mortality in Pennsylvania for the first eight months of 1970 showed an increase of over 2500 compared to the same period last year. Winter losses are not included in the tabulations. Mortality through rampaging dogs accounts for the largest part of the increase, and vehicles claimed the lives of 10,876 whitetails on the state's highways, up from the 10,010 during the same period last year. Losses of 412 through crop damage are slightly behind the 430 recorded from January through August, 1969, while recorded illegal kills were 451, also slightly less than last year's figure of 486.

In the first eight months of 1970 dogs accounted for 1586 deer in Pennsylvania, a big jump from the 436 recorded during the same period in 1969. Deer mortality from other causes totaled 962 during the January-August period. In the same months in 1969, whitetail losses through other causes totaled only 334.

Total deer mortality for the first eight months of 1970 was 14,265, compared to 11,696 from January through August of 1969.

Compound Bow, Tranquilizers Illegal

In answer to inquiries concerning the legality of compound bows and tranquilizers in arrows, the Game Commission says that both are unlawful to use while hunting in Pennsylvania. The compound bow is aided and assisted by mechanical means, being controlled by a system of pulleys and hinges. Tranquilizers are intended to immobilize game, but are often lethal in themselves if not used properly.



PGC photo by CIA Don Madl

ELECTRICALLY-LIGHTED MAP is now in use in Game Commission's Southwest Division office, Ligonier, showing status of each radio-equipped PGC car in ten counties. Individual toggle switch-light arrangement indicates at a glance units which can respond quickly to emergencies, complaints, etc.

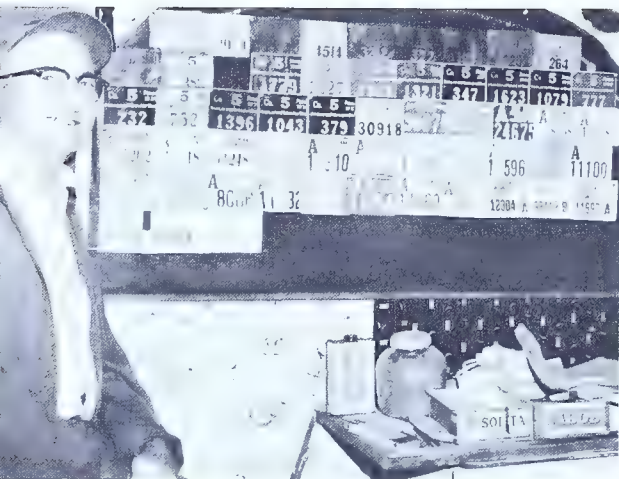
The Squirrel That Tried to Commit Suicide

Sometime ago, a Wilkes-Barre businessman—name unknown—was crossing Public Square on his way to work. Suddenly he saw a strange sight. A squirrel was running repeatedly against the trunk of a tree, apparently trying to bash its head in. Weak and helpless, the squirrel permitted itself to be picked up and inspected, and this is what the businessman found. The squirrel's mouth, for some reason, was locked so tightly it could not be opened.

Nesting it in his hat, the man went to the offices of a central city dentist, a busy man with whom you made appointments well in advance. There, all other work was promptly put aside. The points of several teeth were filed sufficiently to permit the dentist to insert an instrument and pry the squirrel's mouth open. Inside was found a nut that was much too large. The squirrel's teeth had locked around it, incredible as it may sound, and the bewildered animal had been starving and thirsting to death. Apparently in desperation it had been trying either to get its mouth open, or commit suicide. The operation over, the businessman took the squirrel home. There's a happy ending. The squirrel recovered and was subsequently returned to its familiar haunts on the Square. There, it still romps today, contented and happy—but very careful of oversized nuts.—*Emmanuel Winters*

Always Hungry

The tiny shrew will consume its own weight in meat every three hours.



ALBERT C. BLOUGH, of New Enterprise, displays every hunting license issued to him since 1913 except one. The 1924 license was made of aluminum, he recalls, and was lost after it broke. Does anyone else have such a complete collection of personal licenses?



MARY LOUISE DEVITO, Williamsport, fired a new world's record group of 7-11/16 inches for 10 shots at 1000 yards, during a match held by the Original Pennsylvania 1000-Yard Bench Rest Club in 1970. Her rifle was a 7 mm/300 Weatherby with a Hart barrel, using 168-gr. Sierra bullets.



PAUL FAILOR, PGC Wildlife Conservation Specialist, lectures on predator calling at the Forest Service Visitor Information program at Kiasutha Campground on the Allegheny Reservoir.



MARK BODAMER, 16, of Titusville, displays two nice beaver pelts he took in Crawford County during the past season. Also shown are some of the 28 muskrats he trapped.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

Firearm and Hunter Safety Study

Pennsylvania's Hunter Safety Program has benefited greatly from the emphasis on safe gun handling which has been provided by developing proper student attitude through the Firearm and Hunter Safety Study at Penn State University.

Since the initial attitude inventory for beginning hunters, which was prepared by Dr. Frank Anthony for comparison of methods of teaching, many schools, sportsmen's clubs, civic groups, and individual hunter safety instructors have successfully used the firearm and bow handling inventory. It has changed the thinking of both beginning and experienced hunters. The attitude inventory not only provided the necessary emphasis for teaching hunter safety, but also developed important discussion by presenting the inventory before actual hunter safety training. Any change in attitudes could be measured after the course, and it most certainly was a useful yardstick to determine certification.

The present phase of the study is being developed by Dr. Anthony to determine the effectiveness of visuals with a semantic differential attitude inventory for beginning hunters. Fifteen concepts were chosen to represent the Pennsylvania Game Commission's hunter safety and wildlife conservation programs. An attempt also was made to represent most of the Ten Commandments of Hunting Safety. Unlike the first attitude inventory, which was measured by reactions of agreement or disagreement, bipolar adjectives such as "good or bad" and

"practical or impractical" will be used. It has been pointed out that how a person behaves in a situation depends upon what that situation means to him.

The following project is designed to build good attitudes or values for a beginning hunter so that he may enjoy the sport safely:

The Development of Semantic Differential Attitude Inventory for Beginning Hunters

Objectives: (1) To develop a semantic differential attitude inventory for measuring hunting concepts. (2) To determine whether there is any difference in attitudes of beginning hunters if the concepts are presented verbally or the same concepts are presented verbally with pictures.

Need for the Study

It is now mandatory that beginning hunters in Pennsylvania receive systematic instruction in hunter and firearm safety education before they receive their first hunting permits. During the past two years approximately 125,000 boys and girls have enrolled for these classes. This project is designed to develop a semantic differential attitude scale which will help the beginning hunter to develop an awareness and learn the Ten Commandments of Hunting Safety.

Procedure

1. Fifteen concepts will be selected to represent the firearm and hunter safety education and wildlife conservation programs of the Pennsylvania Game Commission.

2. Osgood's "evaluative" bipolar ad-

jectives will be paired with the 15 concepts.

3. The attitude inventory will be field tested with a random sample of Game Protectors.

4. The final attitude inventory will be printed in two forms: (1) concepts with bipolar adjectives. (2) concepts with pictures and bipolar adjectives.

5. Ten schools will be chosen at random where concepts with pictures and concepts without pictures will be tested by different grade levels.

6. Other variables tested will include sex, residence, hunting experience, parental background, and adult groups.

Questions Raised by Experiment

Are there differences in attitudes of hunting concepts when concepts are

presented in picture form as compared to word form alone?

Do the attitudes differ by grade level, sex, place of residence, age level, or vo-ag groups?

Literature Reviewed

Anthony, Frank. "A Comparison of Methods of Teaching Firearm and Hunting Safety Education in Selected Pennsylvania Schools." The Pennsylvania State University, College of Agricultural Experiment Station, Bulletin 711. August, 1964. 20 pp.

Osgood, Charles E., and Suci, George J., and Tannenbaum, Percy H. *The Measurement of Meaning*. University of Illinois Press, Urbana, 1957.

Osgood, C. E. "The Nature and Measurement of Meaning," *Psychological Bulletin* 49:197-237. May, 1952.

Experimental Design

Test	Group
Concepts with Pictures	7-8-9-10-11-12 grades Vo-ag classes Adult groups
Concepts written form	Similar groups

Distance No Deterrent

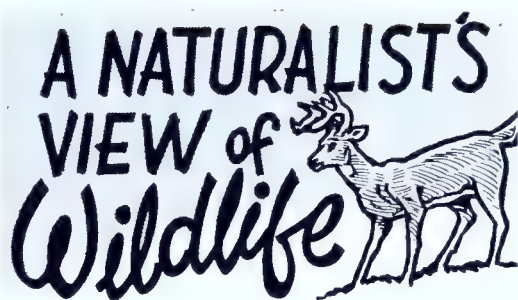
Members of many sportsmen's clubs and schoolteachers have shown increased interest in becoming certified Hunter Safety instructors since it was announced that the safety program would become compulsory for hunters under age 16 who have never held a hunting license in Pennsylvania or another state before. One person who went out of his way to cooperate was Darrell G. Charr, teacher from RD 2, Canton. Mr. Charr recently traveled 60 miles to take the Pennsylvania Hunter Safety Instructor's Course, which is administered by the Pennsylvania Game Commission.

Report Tagged, Banded Birds and Mammals

Tagged or banded birds and mammals play a major role in game management, and the Pennsylvania Game Commission asks the cooperation of the general public, as well as hunters, in reporting marked wildlife to appropriate agencies or organizations.

Federal and state agencies, sportsmen's groups, etc., regularly tag or band birds and mammals for various studies. Hunters can help assure the future of their sport by reporting the band or tag numbers and location and date of bagging or finding tagged or banded wildlife.

THE LANE to our family farm was over three-quarters of a mile in length and led up over a steep hill and then through a dark hollow before it turned to our house. The hollow was banked on both sides by tall evergreens; on the farm side by a plantation of red pines, on the woods side by old hemlocks. In the winter, by the time we got off the school bus and had walked home, it was 4:30 p.m. and dark. Times without number as my sister and I walked through the dark hollow, the deep *whoo-who-who-whooping* call of the great horned owl



with snow. The one to three eggs are chalky white and almost round, being just slightly longer than wide, about $2\frac{1}{2}$ by two inches.

The Great Horned Owl

By Leonard Lee Rue, III

would come wafting down from the hemlock ridge. Kids always enjoy something slightly scary and the owl's calls would send delicious little shudders up my spine. Many times in the morning on the way to school we would hear the raucous calling and cawing of countless agitated crows that had discovered the owl's sleeping place and were letting everything within hearing know where it was.

The crows had good reason to dislike the owl because it undoubtedly took many a sleeping crow from the rookery that was located along the Delaware River just a few miles above Easton. The owl made raiding forays against the crows at night and the crows harassed the owl in the daytime. Although the crows were a nuisance, they never succeeded in driving the owl out of the area.

The great horned owl—*Bubo virginianus virginianus*—gets its common name from its ear tufts or "horns." It is the only large owl having these. In Pennsylvania, the great horned owl mates in December and January. Eggs are laid in late January and early February. Its frequency of calling increases during the mating season. The female often sits brooding her eggs, covered

The great horned owl is not much of a nest builder, more frequently appropriating the old nest of a hawk, usually a redtail's. Because they nest so early, these owls have first choice of all available nest sites. Although these owls do not usually nest in hollow trees, I have located three families that did.

Incubation of the owl's eggs is by both adults over a period of 28 days. Most birds do not begin to brood their eggs until they have laid the complete clutch, but birds of prey usually begin to brood as soon as the first egg has been laid. Most of the smaller birds lay an egg a day or one every other day. The three to five eggs common to most birds of prey are laid over a one-to two-week period. This accounts for the extremely long incubation period. This disparity in ages and sizes also is the reason the last hatched chick seldom survives; it is often eaten by one of the first hatched youngsters, or crushed in the nest by the larger birds.

After the young owls hatch out, the female is in almost constant attendance, brooding, sheltering or feeding them. The male does most of the hunting, bringing in more than enough food to feed the female and the young.



In about six weeks the young owls are well feathered, and by the time they are eight to 10 weeks old they are ready to fly and to leave the nest. The adults continue to care for the young for about another month and then the young scatter to fend for themselves.

When full grown a female great horned owl will be about 21 inches in length, have a wing span of 56 inches and weigh up to 4½ pounds. As is true with most birds of prey, the male is slightly smaller, about 19½ inches long with a 53-inch wingspread.

The great horned owl has, because of its fierceness and deadly hunting efficiency, earned the sobriquet of "tiger of the air." It has on occasion even attacked man, although most of these attacks are thought to be the result of mistaken identity—the owl mistaking the man's hat for a possible meal. Deliberate attacks upon man are common by the owls in defense of their nest or young.

The diet of the great horned owl has prompted a great amount of study and research. Small prey such as mice, shrews, moles, small birds and even young rats are swallowed whole by the owl. Larger prey is torn to pieces with the bill. The food is swallowed and is processed in the proventriculus, i.e., the upper portion of the bird's stomach. The nutrients are extracted by the bird's digestive juices and the inedible portion is compacted and regurgitated in the form of pellets that measure on the average of one by three inches. From the time the prey is swallowed until the pellet is regurgitated usually takes about eight

hours. That is why so many of the owl pellets are found beneath its roosting place. The prey will probably be eaten elsewhere but the pellet is usually regurgitated while the owl is at rest during the daytime.

It is from the study of these pellets that biologists and ornithologists have been able accurately to determine just what this owl feeds upon. The owl's diet varies, of course, according to the time of the year and to the fluctuation of the population of its prey. However, thousands of pellets gathered over decades show that game birds and animals make up about 50 percent of the diet, rats and mice 23 percent, small birds nine percent, other mammals seven percent, poultry six percent and reptiles, amphibians, fish and insects five percent.

The great horned owl attacks and feeds upon skunks on occasion. Most birds have a very poorly developed sense of smell, thus negating the skunk's main weapon. In addition the owl's nictitating membrane, or third eyelid, acts as safety goggles covering and protecting its eyes from the skunk's spray.

The exceedingly large eyes of the owl allow it to use whatever light is available at night for sight. The owl's eyes are fixed solidly in its head so that in order to see something moving, the owl must turn its head. It cannot turn its head in a 360° circle, as many believe. It usually turns its head 180° and then snaps its head back around to the other side in a motion so fast that the movement is not seen.

All in all, the great horned owl is a very interesting species of wildlife.

Dr. H. E. Kilgus in DuBois Hall of Fame

Included among the inductees into the DuBois Area Hall of Fame in late 1970 was the late Dr. H. E. Kilgus, of Brockway, a member of the Pennsylvania Game Commission from 1943 to 1949. Dr. Kilgus was honored for his many years of service to hunting and wildlife conservation. The bound certificate given to commemorate the occasion was accepted by Edward L. Kilgus, son of the former Commissioner.

A Refresher Course for Campers

By Les Rountree



WHILE THE THOUGHT is not a pleasant one, sooner or later everyone who spends any time in the outdoors will be called upon to administer first aid treatment. Hopefully, the accident will be a minor one requiring only a dab of antiseptic and a Band-Aid. But if something more serious does occur, the knowledgeable camper should know what to do while the doctor is on the way or until the victim can be transported.

It should be remembered that first aid treatment is exactly that. No attempt should ever be made by untrained persons to administer anything beyond preliminary treatment. Improper first aid can be more dangerous than the wound or accident itself. I won't make any attempt to suggest treatment in this column that can't be undertaken by an outdoorsman who can keep his cool during an emergency. Surprisingly enough, most of us when called on to perform some first aid chore can do it with reasonable skill. The great majority of Americans have received some sort of first aid training at some time in their lives. It may have been with the Boy or

Girl Scouts, in the armed services or in a local club or fraternal organization. But we need some refreshing from time to time. Here are some of the basics that should be reviewed.

Wounds

Minor cuts and abrasions, no matter how insignificant they appear, should be treated promptly. Always wash your hands with soap and water before attempting any kind of first aid if it is at all possible. Cleanse the injury with soap and water if available, apply one of the more commonly available antiseptics and place a sterile compress bandage tightly on the wound. Bind the dressing snugly with tape, the bandage tail or anything else that is available and clean. If you use tape, be sure not to apply the tape directly to any part of the affected tissue.

If the wound is a severe one and bleeding is profuse, apply a large compress bandage immediately. Tie the bandage on tightly and don't permit the bandage to be taken off by anyone but a physician. If the compress by itself doesn't work, a tourniquet may be required. However,

you should first try to control the hemorrhage by applying gentle but firm pressure at one of the six major artery pressure points on the body.

If a tourniquet appears to be the only solution, never use any thin or narrow material such as rope, wire, sash cord or string. Improperly applied tourniquets can cause damage to surrounding tissue. A belt, stocking or a scarf is satisfactory. Apply the tourniquet with enough force to stop the bleeding and don't remove it. This should be done only by a doctor. Contrary to earlier beliefs, periodic removal and retightening of the tourniquet can only result in more blood loss by the victim which could be fatal. Do, however, note the time that the tourniquet was applied. The doctor will need this information. Make the victim comfortable, treat for shock, and get him to a doctor or hospital immediately.

Shock

All injuries will be accompanied with some degree of shock. The symptoms of severe shock are pale face, cold clammy skin, rapid but probably weak pulse and a general sense of disorientation. Advanced shock sometimes causes unconsciousness. The patient should lie down and be covered with a coat, blanket, newspapers or whatever is available. The shock victim loses body heat rapidly, which intensifies the condition. If the person is conscious he may be given some water to drink but do not offer anything alcoholic. Call a doctor or take the patient to one as soon as possible. Always treat the victim with care and keep reassuring him in a calm manner. Loud shouting and needless confusion only aggravate the situation and



frighten the patient. Try to retain your composure and keep the victim's condition uppermost in your mind.

Fractures

In the case of a fall, if the victim complains of pain in an extremity you



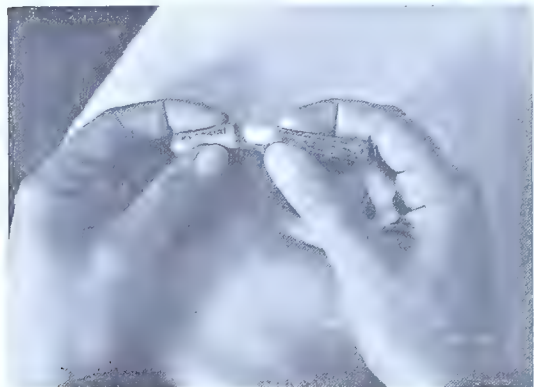
EVERY CAMPER SHOULD have at least a basic first aid kit, such as is shown here, to care for routine cuts, burns, scratches, etc.

should assume that a bone may be fractured. If the pain is in the back, do not move the victim unless his life is endangered from other causes; if he must be moved, keep the back immobile. Call a doctor or ambulance at once. If you feel certain that a bone has been broken, splint the break with boards, sticks or rolled-up newspapers to immobilize the affected part. Be sure to pad the splints and apply antiseptic if the skin has been broken. Treat for shock.

Burns

For minor burns where the skin is merely discolored, immerse the affected part in cold water and then apply burn ointment. Bandage loosely or not at all. For serious burns where blisters have formed or the skin is broken, do not apply anything except several layers of clean gauze or a piece of sheet or toweling. Treat for shock and call a doctor. Burns caused from

chemicals or acid should be washed immediately with clean running water until the foreign material has been flushed away. After you're sure the area is clean, apply burn ointment. Never apply iodine or other liquid antiseptics to a burn. In the case of irritating liquids or powders in the eyes, use the flushing water treatment until the material has been washed away. Do not attempt to apply any



ANTISEPTIC SWABS of Merthiolate take up almost no space in the kit, yet are handy items to have when youngsters come in with scraped knees and elbows.

kind of first aid treatment to the eyes other than washing them. Removing a foreign object from the eye or treating injuries is not first aid procedure. Most small objects will be washed out naturally by the tear ducts. The same advice goes for ears. As the old doctor's saying goes, "Never put anything into your eye or ear that is smaller than your elbow."

Unconsciousness

Even to a medically trained person the cause of unconsciousness may not be readily apparent. It could be anything from sunstroke to heart failure and a doctor should be called at once, even if the patient revives quite soon. One of the most probable causes that a camper will encounter is sunstroke. This is caused by continued exposure to the sun's rays and occasionally indoor heat. The symptoms are headache, red face, hot skin. Since the body's cooling system has temporarily

broken down there will be no sweating and the pulse will be strong and rapid. The patient may be dizzy and weak and could lose consciousness. Remove the patient to a cool shady place as soon as possible and loosen all tight and binding clothing. Apply a cool towel (or any available cloth) to the body, especially the head. If a bucket of cold water or a stream is nearby, use any item of clothing, well soaked, to sponge the victim's body. Continue until body temperature is near normal. Give no stimulants under any circumstances. If the patient is conscious and asks for water, give him a limited amount. Call a physician as soon as possible.

Fainting

In fainting the patient becomes dizzy and may fall down unconscious. Fainting may come from a variety of causes also, most of them probably unknown to the person called upon to administer first aid. Give no medication unless a member of the family is there who has knowledge of the patient's special medical requirements. If someone near you appears to be fainting, it may be possible to avoid unconsciousness by having the victim lie down with the head lower than the feet. If lying down is not possible have the patient sit down with his head between his knees. If unconsciousness occurs, keep the victim in a reclining position with the head low. Elevate the lower limbs to induce blood flow back to the head. Cold water sprinkled on the face will usually revive him. If unconsciousness is prolonged call a doctor.

Frostbite

In spite of our fine array of cold weather gear, frostbite occurs more frequently than you'd guess. Rule number one is—do not rub the affected part with snow or cold water. This will only aggravate the frozen part and may damage tissue. As soon as possible the victim should be brought into a warm room and given hot tea,

chocolate or coffee. Remove clothing or footgear from the affected part as carefully as possible. In advanced cases of frostbite the patient may not have any feeling in that part of the body and rough handling may cause further injury. If necessary, cut away the boot or clothing. Immerse the frozen part in lukewarm (not hot) water. After the affected toes or fingers are warm, encourage the victim to exercise them. A doctor should be consulted as soon as possible.

Mouth to Mouth Rescue Breathing

In cases of unconsciousness where breathing is suspended, artificial respiration should be applied at once. The mouth to mouth system is much preferred over the old-fashioned hands-on-the-back method. No matter how desperate the situation may seem . . . keep trying. There are cases on record where seemingly hopeless drowning victims have been revived. Turn the victim on his back and make sure nothing is in the mouth. If the victim wears dentures remove them. After checking the mouth, tilt the

head back so the chin is pointed straight up. Keep the jaw jutting out so the air passage from mouth to trachea is clear.

Press your mouth tightly over victim's mouth and pinch nostrils to prevent air leakage. In the case of a small child cover the nose and mouth completely with your mouth. Breathe into the victim's mouth until you see his chest rise. Remove your mouth and listen for the return of rushing air. If there is no air exchange, recheck the jaw and head positions. If you still do not get any return of air, turn the victim on his side and slap the back smartly to dislodge matter that may be stuck in his throat. Repeat breathing and remove your mouth each time for air to escape. For an adult breathe about 20 times for the first minute and then about 12 times per minute after that. For a child breathe about 20 times per minute using light puffs. Continue until victim is breathing easily himself. For a child under three breathe through both nose and mouth and keep one hand on the abdomen to prevent distending the stomach.

POSED PHOTO SHOWS HOW NOT TO work up firewood. Men are just too close together. Miscue with either hatchet or saw could be dangerous.





EVERYONE LIKES BACON and, as a result, burns from splattering grease are common on camping trips. A tube of ointment relieves the pain.

After breathing has been restored do not attempt to move the patient quickly. Some injury may have occurred during his unconsciousness and other first aid treatment may be required. Treat for shock and keep the patient covered up.

Snake Bite

Being struck by a poisonous snake is one of the big worries of many campers. The chance of this happening is remote, even in areas that have

a high snake population. All of the dangerous snakes in the United States are rather shy creatures which usually slip away undetected. Many first aid authorities and physicians now agree that an ice compress applied to the puncture marks and then removing the patient to a hospital is the best possible treatment. Carry the patient if at all possible, or at least have him walk slowly. The old method of slashing the fang marks with an "X" and then sucking out the blood has caused more damage than the snake's venom in many cases, and some believe it should be done only as a last resort when it will take considerable time to reach medical aid.

The best advice in all accident situations is, of course, try to prevent the unpleasant happening in the first place. Most snake bite cases in Pennsylvania, and I'll bet in most states, occur when someone is handling snakes that are known to be poisonous. One careless mistake and a painful ordeal is the result. Learn to recognize the poisonous snakes that are native to America (there are only four) and give them the respect they deserve. There is no need to exterminate every snake you meet just because a very few are to be avoided.

Right now is a good time to check out that first aid kit that's been tucked in your glove compartment or trunk since last summer. I'm sure there are a few items that should be restocked. What's that? You say you don't have a first aid kit? Hmmmmm. . . .

Thanks From Parents of Lost Boy

"We wish to thank the employees of the Pennsylvania Game Commission, all the deputies, volunteers, Civil Air Patrol units and the Karthaus Fire Company, who helped in the search for our 15-year-old son, Robert Scott Naugle, who was lost in the woods near Quehanna on November 14. He was out all night, and we don't know what might have happened if it hadn't been for these people. A special thanks to Mr. and Mrs. 'Bus Camper'—we never learned their real name, so that is what we called them—who were so thoughtful in furnishing coffee and sandwiches for many searchers. It was their anniversary and they spent it helping us. To everyone who helped, our sincerest thanks."—Mr. and Mrs. Robert C. Naugle, Altoona.



TOP PENNSYLVANIA ARCHERY FAMILY, Ed and Marilyn Williams with their well-known son John, and Hardy Ward of Texas, current world champion archer.

Winter Can't Stop . . .

Inside Shots

By Keith C. Schuyler

Photos From the Author

THERE WAS A TIME not too many years ago when formal target shooting followed a schedule somewhat like that of a lawnmower's. Actually, attempts at cold-weather activity were related more to the level of interest in archery than in the weather. Consequently, the first National Archery Association indoor shoot held in the Farm Show Building at Harrisburg last year filled a need rather than a novelty. It sure produced interest and activity!

There are other reasons that archery has been looked upon as a mild-weather sport. There are few places that one can shoot in winter and not enough archers in the average organization to warrant renting a building large enough to accommodate any of the popular indoor rounds. Outside activity in states like Pennsylvania, where the weather can turn cold and snow can get deep, has its limitations. Many of the old self bows, made of one length of wood, would break at some of the lower extremes of tem-

perature found in this state. Until 1951, when the first bow hunting season was established here, only a handful of archers hunted for big game and even fewer sought small game with the bow and arrow.

Basements in the average home built before World War II would not provide enough shooting distance for much activity even on an individual basis. The average shooter was so poorly equipped from the standpoint of both tackle and ability that it was dangerous for this subterranean type of activity. Even basements long enough to provide shooting distance were not likely to have sufficient overhead clearance for the long bows popular before the advent of modern recurves.

Today the story is considerably different. Many can get at least some practice in their home basements. With about 120 clubs scattered over this state, there is enough organized interest that archers find a way to get some inside practice on a group basis

when the snow flies. Those who take their target shooting seriously, whether on a field course or a measured target range, do not like to risk expensive arrows which can escape in the snow.

Consequently, the decision to hold a national indoor amateur shoot met a genuine need. In fact, at this writing the elimination of winter shoots in some areas is being considered in favor of indoor target archery, if appropriate shooting quarters can be found. This certainly is not going to do away with all outside shooting for those who prefer it when the weather is favorable, but it can prevent disappointment for sponsoring clubs that sometimes go to a lot of work to set up a shoot only to have the weatherman hit them with a blizzard.

Pennsylvania was a logical choice for site of the first NAA indoor amateur match, since the Commonwealth continues to be the geographical center of archery activity. An initial try in any such activity is certain to promote misgivings among those responsible for its success, but attendance at Harrisburg last April removed any doubts.

CHARLES HAGAN, President of Maryland Archery Association, had the highest card in the professional division, a score of 845.



Although the Ninth Annual Indoor Pennsylvania State Archery Tournament was held in conjunction with the National First, 290 archers were registered to shoot in the big one. Many of these shooters made up some of the teams representing 41 clubs, for a total team participation of 428.

The problem was not a lack of shooters but rather the need to accommodate the huge crowd that arrived for the events. The problem was neatly solved when 192 archers were called to the line for the first flight. The second flight of 100 archers finished out the NAA program concurrently with the first group of teams competing in the PSAA event on April 4. The balance of teams shot the following day to complete the state tournament. This was necessary since the shoot brought an increase of 41 archers and four clubs over the previous attendance record in the nine years that the event has been held.

Indication of the interest in indoor shooting was best exemplified by the attendance itself. There were more participants in the NAA inside event on the first try than were present at the outdoor event later in the year at Oxford, Ohio.

Although Pennsylvanians had to step aside for the 845 of Charles Hagan, Maryland, in the professional division, three state pros were not far behind. Charles Jordan came up with an 837 and John Kleman and Sherwood Schoch divided third honors with 830 each. Bill Washnock, of Ohio, was only three points behind Hagan with an 842 in taking the top amateur spot. In fact, Leonard Lisenbee, of Maryland, Chris Laubucki, Massachusetts, and John Williams, Pennsylvania, each shot higher than all of the professionals with the exception of Hagan. Pennsylvanian Geri Hare nailed down the top professional spot for women with a 763, followed by Nancy Pfeilmeier, of New Jersey.

In Amateur Men's Barebow, the story was somewhat the same. Charles Moore, North Carolina, walked off

with the gold medal by shooting a 792. Pennsylvanians came on in the following order: Bronislaw Soltysik, 755; Emil Lehan, 742; James Connor, 735.

Pennsylvania's Amateur Women won all the way in both freestyle and barebow. Diana Oden was top freestyler with a 789 and was tied in score by Linda Myers. Ruth Wallace was close behind with 783 and Barbara Hoburg posted a 777. LaRue Bruce arrowed her way easily to the top barebow spot with a 569, followed by Marie Bartch with a 533 and Dorothy Nichols at 464.

Although 1970's shooters were predominantly Pennsylvanians, both because of shorter traveling distances and the large number of shooters in the state, the story could change this year when the Second National Archery Association Indoor Amateur Tournament is held on April 24 at the same location.

In the Ninth Annual Indoor PSSA Team Championship Tournament, five new records were set. Paul Donahoo's 842 freestyle score beat the old record by 28 points. In the same division, the Gold Star club smashed the old record of 3074 with an impressive 3142.

Freestyle Record

Ruth Wallace set a new freestyle record with an 816, eight points above the previous high. Rebecca Wallace added 20 points to the old barebow record for a 758. Palmyra Club really walloped the old barebow team record of 2353 with a 2581.

An unpleasant surprise was in store for those who had not read the pre-tournament announcement about the barebow restrictions. All bows were inspected to ensure that nothing pro-

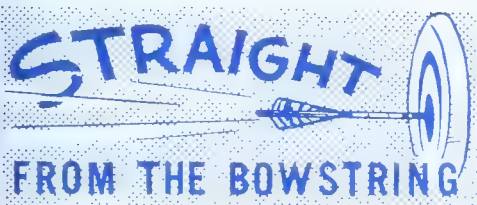


BUD FOWKES, NAA official, inspected bare bows to make certain they had no sighting aids before the well-attended tournament began.

jected ahead of the bow, there were no marks on the bow, and the string serving could not be used as a sighting aid. There were grumbles, but the fact that a number of previous records tumbled indicated that the restrictions did not hamper some shooting at the 20-yard distance in the Indoor American Round.

What the future holds for inside shoots is anybody's guess at this point, but the evidence is strong that indoor activity is on the upswing. This has been in evidence for a number of years in various parts of the country where indoor archery is catching on. Where bowling has slipped, conversions have been made to provide automatic archery lanes. Leagues are formed and shooting the bow has become another winter pastime that is attracting increasingly large numbers.

Meanwhile, a foot or so beneath a comfortable fireplace there is more and more archery activity taking place in private homes. The ideal minimum is 20 yards with a few extra feet for the shooting line. However, shorter spaces are frequently utilized as a means of keeping the bow arm in shape and an excuse to invite the neighbors in.





BILL WASHNOCK, Tallmadge, Ohio, relaxes after winning a first place during NAA National Indoor Championship meet held in Harrisburg.

This is not likely to cut down outside archery activity. Rather, the opportunity to shoot the year around is certain to attract more and more to the sport. For those who are completely target oriented, shooting inside is little different than outdoor activity aside from the restricted distances in the average setup.

There will always be those who can hardly wait to get outside to start smashing up arrows on the assorted rocks and stumps on the field tour. But no one should pass up an opportunity to keep the old eye and arm in trim for whatever comes up in archery.

It was interesting, in talking to some of the champions at the National, to dig a bit into their archery history.

Bill Washnock, who comes from Tallmadge, Ohio, said that this was his first really big win. The only other contest in which he was tops was the Ohio State Archery Association Shoot. He had been shooting only about a year when he made his score at Harrisburg.

An interesting group was Ed and

Marilyn Williams having a discussion with their son, John, who holds a hatful of records, and Hardy Ward, of Texas. Hardy is current World Target Champion, and he set a new world's record in beating out Johnny for the honor. The two have become close friends through their archery association. Not everyone is aware that both Ed and Marilyn Williams, Johnny's parents, are excellent archers in their own right.

Charles "Chip" Moore, who hails from Black Mountain, N. C., had plenty of experience behind him to take the top spot for Amateur Barebow Men. He is an avid hunter and has bagged 17 deer. He hunts without a sight on his bow.

Philip Ambrose, Silver Spring, Md., was on his knees on the target line. The trajectory of the arrows from his 33-lb. bow would not clear some of the beams on the long shots. Nevertheless, he shot a respectable 802 in the Freestyle Division.

George Slinzer, Luzerne, Pa., was threatening the leaders when an arrow caught on the top of his crest and flew completely over the target. George had to settle for fifth place but went on to become all-events champion of Pennsylvania for 1970.

Unsung Heroes

There are always many unsung heroes behind such a venture, such as the Mechanicsburg archers who built the 48 target stands needed for the national shoot.

The NAA event was the 900, with 90 arrows shot at 60, 50 and 40 yards. The 10-ring scoring was used. This simply means that the 48-inch target is divided into 10 scoring rings rather than the more familiar five. Each color has a black line through it so that two scores are possible with two different arrows in the same color. For example, the exact center of the gold, which is outlined by a black ring, produces a 10. A gold falling outside of the black line produces a 9.

High individual scores in the team

shoot were quite impressive. In addition to the new all-time pro records set by Paul Donahoo, and the amateur highs for Ruth Wallace and Rebecca Wallace, Ray Dasch came up with an 836 for the men's free-style. Emil Lehan had 786 for the barebow amateur artists.

Although the curtain descended on the First Annual National Archery Association Indoor Tournament Saturday night, shooting in the Farm Show Building was far from over, for the Pennsylvania State Archery Association Team Championship shoot was only partly finished. About 100 team members shot concurrently with the second flight of the NAA event, but there was a large group waiting Sunday morning to complete the team shoots. Some archers who competed in the first flight of the NAA tournament remained for the state team shoot on Saturday evening or stayed over for the event on Sunday.

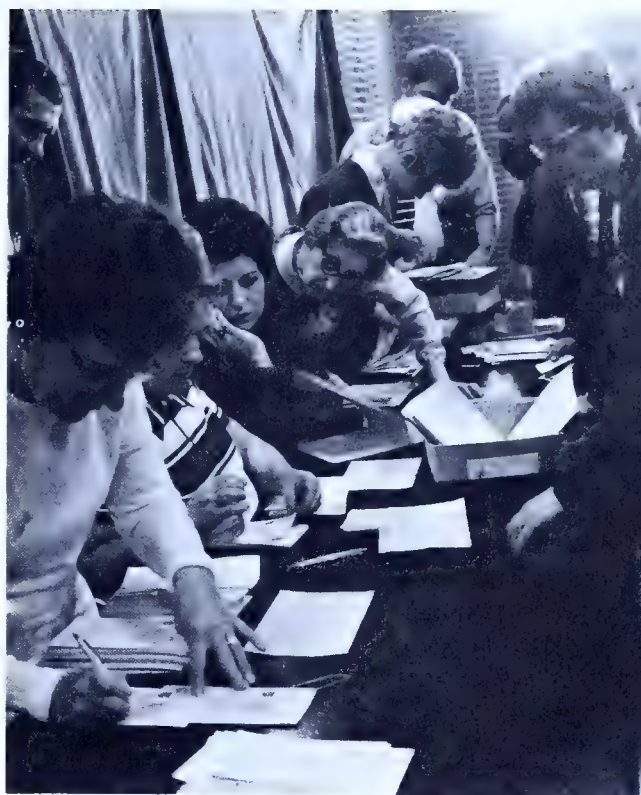
Registrations

Just keeping registrations straight was a major task for officials. They performed a remarkable job. But since many teams returned home on Saturday night, it was some time before all had access to the final scores.

The Gold Star club had a comfortable edge in pushing aside Chieftain Club for first place in the women's amateur division with a 3142 to 2994. Big Chiques came in with a strong third at 2951 followed by York with 2853. Palmyra women claimed the right to top team in barebow with 2581.

In men's amateur free-style division, Clairton came through with a squeaker as Pheasdale pushed all the way. Clairton won with a 3240, only eight points over Pheasdale. Leaning hard on Pheasdale was Kennett Square with a 3226, only 14 behind, and Chestnut Ridge was only 12 points behind that. A mere 26 points separated the four top teams for an unusually close match considering the total scores.

There was a considerably greater



THE TREMENDOUS AMOUNT of paper work generated by the NAA tournament was handled by a group of hardworking ladies who put in long hours at the task.

spread in the men's amateur barebow team shoot as Crowfoot took top with 2932. Thirty-six points down was Bridgewater for second place. An even 30 points behind, for third position, was York, and South Mountain claimed fourth spot with 2818.

The heavy registration for the state team shoot suggests that here is an area of archery which needs further exploration. Although not new in the picture by any means, it does offer interesting possibilities. One of the greatest traditions on the U. S. sporting scene is that of teamwork as best exemplified in the spectator sports such as football and basketball. Even golf, normally considered a man-against-man sport, is enlivened by team competition.

The same thing can happen in archery. Although it will always be the top targeteers who will predominate, the honor is shared by more archers in

team shoots. Those who come close to the top in individual competition, but never quite make the grade, can be a part of the top spot in team events. In addition, sufficient interest could produce a greater breakdown in competition by recognizing the lower classes in each division.

Another plus in such shooting is the opportunity to develop greater interest in area activity. Clubs in proximity to each other can compete even when weather conditions discourage trips far afield. In total, the growing interest in archery which now carries it actively through the winter months may soon place it on a more equitable level with other major sports.

Possibly the one thing that has slowed the advancement of archery is the difficulty in presenting it as a spectator sport. For reasons of safety, it is not practical to have viewers in a position where they can really see what is happening. Some means must

be devised so watchers can keep track of the scoring if archery is to entice crowds of people. The colorful show that formal competition presents in itself attracts a certain number of spectators, but they do not participate in the excitement generated by close scores. Even the shooters sometimes literally do not know the score until they check their targets between ends.

When American ingenuity comes up with a way to present a visual arrow-by-arrow rundown on activity at the top targets, the crowds will come with it. This will bring happy problems of caring for the spectators as well as conditioning archers to bear up under the added stress of applause and other sounds from the galleries. Television is currently capable of bringing archery on the screen. It remains for the first station to tackle the task and give the sport the attention it is earning.

There are still plenty of places for archery to go. And it is going!

Book Review . . .

The Hunting Rifle

During his three decades as gun editor for *Outdoor Life*, Jack O'Connor has built up a following second to none among gunwriters. The views of the Ol' Irishman, as he's come to be called, are well known. You might say he's a middle-of-the-roader, for when so many other scribblers have succumbed to the lure of the magnum for all game regardless of size, O'Connor has steadfastly stuck to his medium-size guns, notably the 270, with which he's had a 45-year symbiotic relationship, for most of his hunting. But he hasn't maintained this position mildly; occasional sentences suggest his typewriter ribbon was splashed with acid, and these add to his readability. Here, in his latest book, he discusses the pros and cons of various rifle types, comments on stock design, hunting scopes, game bullets, etc., and covers in reasonable depth most of today's cartridges, using gamefield observations to illustrate his personal opinions on each. And after a half-century or more of experience to draw on, O'Connor has a background which makes his viewpoints worth considering. Steady readers of his column will find little new here, though his rhapsodic chapter on the 375 H&H Magnum—"the world's most useful cartridge"—may lift a few eyebrows; still, it's convenient to have so much material in one place, and those just getting interested in the shooting game will find this book loaded with practical information on guns and ammo suitable for all American or African big game. (*The Hunting Rifle*, by Jack O'Connor, Winchester Press, 460 Park Avenue, New York City 10022, 1970, 314 pp., \$8.95.)

How to Buy a Rifle

By Don Lewis

Photos by Helen Lewis

I HOPE I get a better deal from you than the last gunsmith I encountered," a middle-aged man informed me as he placed a rifle in the gun rack.

"You've lost me. I don't know what you're talking about," I answered.

"Well, I made a buy on this used rifle that's worth telling about. The fellow at the hardware store wanted top dollar for this rifle, but I got it for a lot less. We argued for over an hour, and he kept insisting that I would be better off buying a new moderately priced rifle. I saw through his story; he didn't want to lower the price, and he thought I would go for a new one."

"He must have had some reason for his viewpoint," I interrupted.

"He kept saying these old military rifles had good actions, but the barrels can be bad, and it's expensive to install a scope. He made every excuse in the book, but I hung right in there and got the price down."

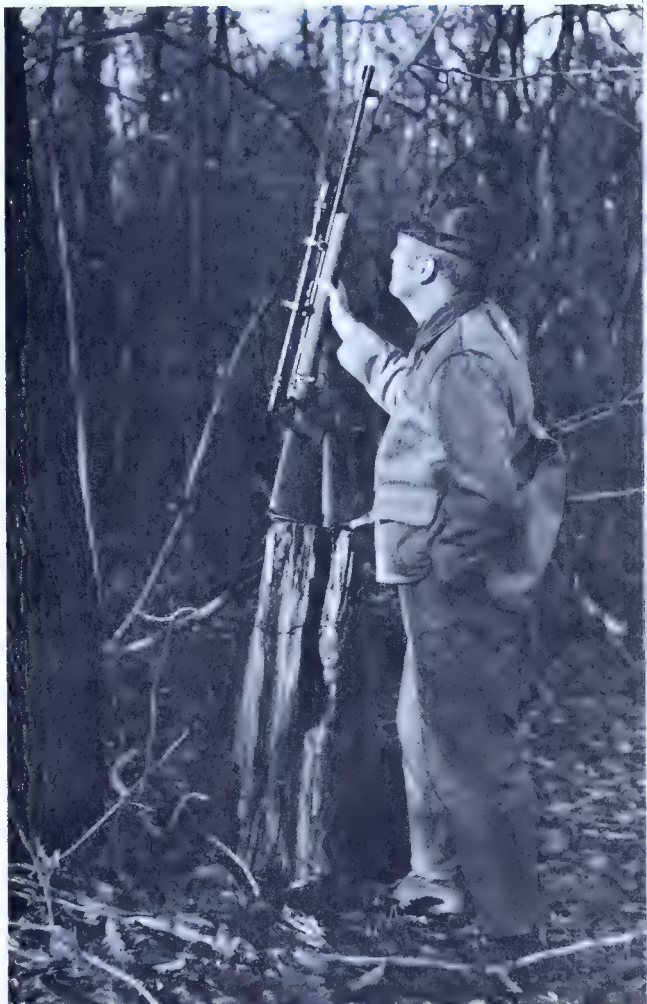
"Somewhere along the line, I remember you saying something about another gunsmith. Where does he fit into this story?"

"Wait until you hear this. I took the rifle to a gunsmith in our community, and apparently it upset him because I didn't buy a rifle from him. He wanted over \$30 just to install a scope."

"Hold it," I said. "I think you forgot something. Are you sure he didn't mention altering the bolt handle and installing a new safety along with drilling and tapping the receiver?"

"Maybe he did. All I know is that it was far too much."

"Not at all," I assured him. "In fact, for the amount of work involved and the skill and equipment needed, it was a bargain you missed."



DON LEWIS WATCHES treetops in squirrel woods. He found the Savage-Anschutz 22 Long Rifle, target scoped, excellent for bushytails.

"You're no help," he fired back angrily. "I'd have as much in an old military rifle as I would in a new Remington 788 or Savage 30-30 pump, and they're drilled for a scope."

I couldn't hold back a grin, and, after a few seconds of staring at each other, we both broke out laughing.

"I think someone else already told you that. Don't let it get you down. I

think every shooter goes the old military route at least once before he realizes that a low price is not always a bargain."

"What do you suggest? I want a scoped rifle, but I can see now that I would be wasting money investing it in an unknown military relic."

"Let's not refer to it as a relic. Many military rifles are worth converting. My advice would be to trade it on a rifle that has what you want from the minute you buy it. Too many fellows make the mistake of buying first and then trying to make their choice into the rifle they've always wanted."

He took my advice, checked out a number of rifles and calibers and selected one. That's been a number of years ago, but he is a very satisfied hunter today.

I realize that the last two columns have been about rifles, but for the past six weeks I've been snowed under with letters, phone calls, and visits to my home from hunters who just don't know what to buy. The maze of ac-

HELEN LEWIS firing a 10-gauge Magnum. Barrels were horizontal at time of discharge, so recoil is obviously something to be considered with this gun.



tions, calibers, and brands to choose from only added to their confusion. I did the best I could with the phone calls and the visits, and since it's impossible for me to answer all the nice letters I get, I hope this column will suffice.

Refrain From Cliches

I'm going to refrain as much as possible from the old clichés stating that the 30-30 is a short-range brush rifle and the Magnums will go the longer distances. All this has been hashed over a hundred times. Neither am I interested in discussing why the '06 has the edge on the popular 308. This, too, has had its share of publicity. What I do want to establish is a set of guidelines to help in selecting the best rifle for each individual. Not every question will be answered, nor will any startling revelations be made. Nevertheless, the things I will mention seem to be overlooked a great many times by customers. During the past 10 years, I've fired several thousand rifles in most makes and calibers, and I've helped scores of people overcome their shooting problems. From my firsthand experiences and observations, I have reached the following conclusions.

One of the hidden gremlins in rifle shooting is recoil. No one likes it, and a large number of people fear it. It's the most distasteful aspect of shooting, and a prime factor in keeping the practice sessions down. I think every person has an inherent fear of getting kicked, and recoil shyness keeps many a rifle from being scoped. If a scope is finally installed, many owners will insist that it be placed so far forward it's nearly impossible to see through it.

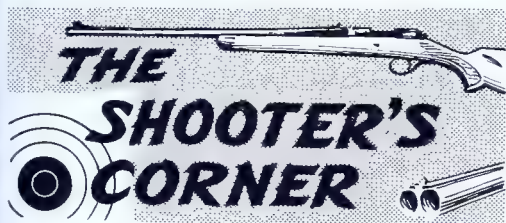
I don't like recoil either, but I learned to control it. Unfortunately, there isn't anything we can do to stop a rifle from rearing backwards. I can suggest staying away from most Magnums, and I think more consideration should be given to the size and type of rifle. It isn't just a Magnum that shakes the body down to the shoes.

The short 30-30 or 32 Special carbine can offer a few surprises. I'm not tall, but a short rifle gets to me, and I have good reasons to believe that most tall people would be better off with a rifle that had some length.

I soon learned that when I helped a shooter overcome the recoil fear, his shooting and desire to shoot suddenly improved. Sometimes it was psychological, but a change to another caliber or type of rifle worked in most cases. Changing to another outfit may not reduce the recoil at all, but, once a dog bites, it's hard to trust it again. Getting a shooter away from a rifle that he was hesitant to shoot won a battle, and having him test fire either a caliber change or another type of rifle usually won the war.

The second mistake I became aware of was too much emphasis on cartridge power. Notice I didn't say caliber. A 300 Savage, 30-06 and 300 Magnum are all 30 calibers, but there's certainly a difference in the size of the cartridge.

It might be that we are living in an era of power. Jet airliners are nearing the 1000-mile-an-hour mark, mass transit soon will whip passengers through a city at nearly 100 miles an hour, and rockets zoom men to the moon and back. This has influenced the hunter. Living in houses that are larger, driving cars that are vastly more powerful, plus going big in every phase of life has twisted the hunter's viewpoint until he believes that more power is needed in the woods. On some types of hunts, this might be true, but the deer and bear in Pennsylvania today are much the same as their ancestors. A well-placed bullet from the average high power will be all the power the hunter needs.



TOM HOOKS and 8-point buck taken at 140 yards using a 243 Steyr-Mannlicher. Since being wounded in Korea 18 years ago, Hooks has taken eight bucks and six does.

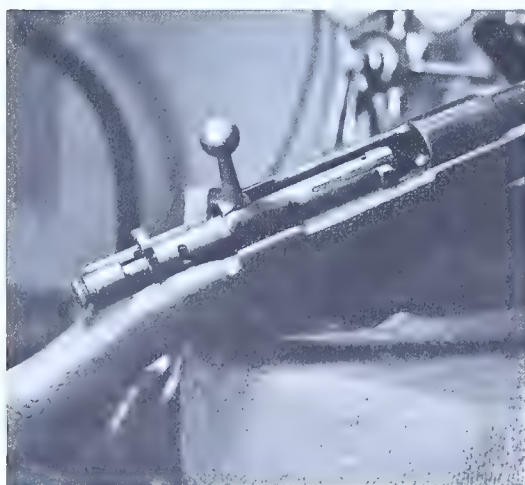
I am continuously asked which one of the Magnums to buy, or if the 30-06 and 270 Winchester are adequate for today's hunting. One man frankly told me that he was buying his 16-year-old son a 300 Winchester Magnum to guarantee a clean kill. He became irritated when I pointed out that the size and weight of the boy were not conducive to handling the powerful 300 Winchester Magnum. To make my point, I let them watch while I fired one round from a 300 H & H Magnum. I stand 5-9 and weigh 165 pounds, but the jolt I received quickly changed the boy's mind, and he took my advice and purchased a Model 70 Winchester in the 243 caliber.

Although I'm a firm believer in sufficient power to handle the game being hunted, I won't budge from my conviction that the hunter needs more for success than just a powerful rifle. I also believe that nearly every hunter could become a fine shot. Accuracy comes from concentration and a perfect trigger squeeze. The ability to

freeze on the target and stay there until the trigger is released will make every shooter a fine shot. This does not just happen. It takes practice and determination. But if a hunter knows how to shoot his rifle and where it will hit at given distances, he won't have to rely on power alone. Success under these conditions will add a new dimension in any hunter's life.

I can't forget the man who was leaving the woods in disgust. He made it very clear that next year would find him in the woods with a Magnum in his hands. Never again would he lose two deer because of a 32 Special. This left me wondering, since the old 32 Special is a pretty fair deer rifle, until I found out that he missed each deer completely. I still haven't figured out these many years later just how a Magnum would have changed the picture. I think a dozen or so practice shots prior to opening day might have revealed a rifle that wasn't sighted in or some very poor shooting.

Power can't be overlooked, but it's not a paramount factor in a Pennsylvania big game rifle. Advertising agencies show TV stars and big game hunters with powerful Magnums, but the reliable 270, 30-06 or 8mm, along with such cartridges as the 30-30, 32



CONVERTING MILITARY RIFLE to sporter requires considerable gunsmithing—such as bolt, safety and trigger alterations, just for starters. It's often simpler to go commercial.

Special, and 35 Remington carry all the power needed in this state. Some hunters have looked at me with a startled expression when I show them one of my favorite outfits, a 7 x 57mm Mauser. I have this fine old cartridge in a beautiful Ruger No. 1 single shot. By today's standards, this cartridge is ancient and just a shade better than the 30-30, but it's one of the most pleasant calibers to shoot. It has plenty of punch for deer and practically no recoil, which puts this fine rifle high on my list.

Nothing But Praise

Some hunters scoff at the 6mm's and the newly introduced 25-06 and 240 Weatherby Magnum, but I'm beginning to see each of these calibers in a new light. It takes testing a cartridge in several rifle models to get a comprehensive idea of just what it will do. I'm no stranger to the 6mm's and the 25-06. I used these calibers for a number of years, but the 240 Weatherby didn't interest me in the least until I fired several hundred rounds in testing. Now I have nothing but praise. As long as the 100-grain bullet is used, any of these light calibers would be an excellent selection for a deer rifle. Since there is practically no recoil, I had trouble knowing when to stop my tests. It got to the point where I was just shooting for the heck of it, although I technically classified it as "running another series of tests."

The third consideration is the type of action. Don't buy a pump rifle because Granddad or a cousin used one for 20 years. On the other hand, don't feel obligated to get a bolt action because your brothers use a bolt gun. And don't think in terms of firepower. A rifle is a rifle and not a machine gun. Rattling five wild shots at a running deer might make good conversation back at camp, but the hunter seldom has anything more than five empty cases to show for his efforts.

The shooter should choose the action that is most suitable for him to inject a new cartridge into the chamber.



LEWIS AND C. J. CLAWSON discuss relative merits of various kinds of rifles for Pennsylvania whitetails.

This doesn't mean that all right-handed shooters will use bolts and all left-handed ones will choose a pump or a lever. It comes down to a matter of individual choice, and that's where it should stay. I might add that the most suitable way for injecting a new shell into the chamber has nothing to do with speed. Tests have proved that most men can work a pump action faster than the bolt or lever, but the number of M99 Savages alone that are carried in the woods attest to the fact that not everyone wants a pump.

Action Type Important

The type of action chosen can be the difference between success and failure. The worst part of it is the hunter rarely discovers that his rifle is wrong for him. He has it, so he uses it. The stock may be too long or too short, or the safety may be difficult for him to work. On top of these detriments, there can be such little things as a poorly designed trigger guard, the wrong type of sights, a hammer that's hard to cock, or a trigger that almost defies pulling. In the excitement of the hunt, just one of the defects mentioned can send a hunter back to camp vowing never to hit the woods again.

A simple point that gets overlooked

by most hunters is the unloading procedure of a rifle. I suppose it's just taken for granted that the shooter will somehow get the rifle unloaded. This is certainly short-sightedness on the part of the manufacturer. Most rifles have to be operated to remove the live shells and this can be dangerous. Somewhere along the line, the hinged floor plate on the bolt action rifle gained some popularity, and all types of releases were designed to help the shooter unload. For my own choosing, I see the hinged floor plate in the same category with the tire pump and the hand churn. Each will do its task, but not very efficiently. All a hinged floor plate ever did for me was aid in dropping all my shells in a foot of snow. I recall once when the shells landed on a crust of snow and disappeared merrily down the mountain-side.

The clip (or more technically, the detachable magazine) is the answer, and it's about time it becomes at least an optional part of every rifle. Some of the bulky contraptions sticking out of the bottom of our modern day rifles are a disgrace to design engineering. In a day when a building can be pushed 1000 feet in the air and ball bearings can be made so small they

Give

GAME NEWS

To a Friend . . .

are hardly visible to the naked eye, it's about time a clip is built into a rifle that will enhance the appearance, work flawlessly, and save the hunter the inconvenience of carrying snow removal equipment to find his ejected shells.

My final point is the trigger. It's the direct link between the shooter and the shell he is about to fire. To my way of thinking, the trigger should be designed to increase the possibility of a hit, but a great number of them do just the opposite.

A fine trigger almost has to be a three-way adjustable one. Adjusting screws should be incorporated into the design to take up creep, control weight of pull, and reduce over travel after the striker has been set free. This is neither complicated nor expensive to build. I'm not suggesting that big game rifles should have trigger pulls comparable to varmint rifles, but I do

think a means should be provided to allow the shooter to adjust his trigger.

Lever action rifles and pumps unfortunately have triggers that just can't be adjusted, and filing or grinding various parts of the trigger mechanism can make the rifle unsafe. However, I've shot many levers and pumps that had triggers that were not objectionable, and with practice, the shooter will get to know his trigger very well.

It should be evident by now that buying a rifle is not just walking into a store and taking the first one on the shelf. Give some thought to the things I've mentioned. A safety that clangs like a bell, or a stock that is too high may seem insignificant at the time of purchase, but either could be the sole reason why a buck got away. I think it's logical to handle a number of makes and models, and, if possible, test fire a few. A rifle is not just a device to hunt with; it becomes a part of the hunter and should always be a thrill to look at and a pleasure to use. Get what you want regardless of a few extra dollars, and check every detail. It may take a week or a month and some inconvenience, but that's how to buy a rifle. . . .

Looking Backward . . .

"In January, at the tavern where I overtook Jameson, I saw some young men in blue jackets with scarlet binding, the uniforms of a volunteer corps of militia riflemen. They had been with their rifles in search of squirrels, but unsuccessfully, the weather being too cold for those animals to come out of their hollow trees.

"Apropos of the rifle.—The inhabitants of this country in common with the Virginians, and all the back woods people, Indians as well as whites, are wonderfully expert in the use of it: thinking it a bad shot if they miss the very head of a squirrel, or a wild turkey, on the top of the highest forest tree with a single ball; though they generally load with a few grains of swan shot, with which they are equally sure of hitting the head of the bird or animal they fire at."

F. Cuming. "Sketches of a Tour to the Western Country," edited by Reuben Gold Thwaites in "Early Western Travels," IV, 46, Arthur H. Clark Co., Cleveland, 1904.

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS *Executive Director*

ROBERT S. LICHTENBERGER *Deputy Executive Director*

JOHN M. SMITH *Comptroller*

Division of Administration

DANIEL H. FACKLER *Chief*

Division of Research

DALE E. SHEFFER *Chief*

Division of Land Management

HARVEY A. ROBERTS *Chief*

Division of Law Enforcement

JAMES A. BROWN *Chief*

Division of Minerals

JOHN B. SEDAM *Chief*

Division of Propagation

RALPH E. BRITT *Chief*

Division of Information and Education

ROY W. TREXLER *Chief*

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188

Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren. SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.

Phone: A.C. 412 238-9523 or 238-9524

Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641

Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union. SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.

Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.

Phone: A.C. 717 675-1143 or 675-1144

Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.

Phone: A.C. 215 926-6071

Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473. Phone: A.C. 215 287-8151

WESTERN GAME FARM—Jack N. Anderson, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212

LOYALSOCK GAME FARM—Charles Pfeiffer, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500

STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223. Phone: A.C. 814 275-2515

STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

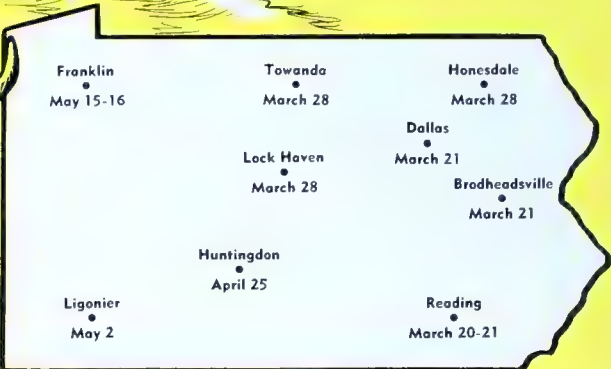
HOWARD NURSERY

SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brockway 15824. Phone: A.C. 814 265-0456

DEER AND BEAR SCORING DATES, SITES



PENNSYLVANIA GAME NEWS

MARCH 1971

13 CENTS

P38.34
1.6
Vol. 42, no. 3



CHUCK
RIPPER

PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION
FEB 19 1971

Published Monthly by the
PENNSYLVANIA GAME
COMMISSION

COMMONWEALTH OF
PENNSYLVANIA

Milton J. Shapp
Governor



COMMISSION MEMBERS

Edwin J. Brooks, President
Lansdale
Andrew C. Long, Vice-President
Shamokin
H. L. Buchanan, Secretary
Franklin
James A. Thompson
Pittsburgh
Loring H. Cramer
East Stroudsburg
Frederick M. Simpson
Huntingdon
Robert E. Fasnacht
Ephrata
Marshall E. Jetty
Brockway



Glenn L. Bowers
Executive Director



PENNSYLVANIA
GAME NEWS

Robert S. Bell
Editor

R. Theodore Godshall
Associate Editor

John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
Rifle Retired?	2
By Al Shimmel	
Transplanted Wild Pheasants—an Answer?	7
By Fred E. Hartman	
Cave Rat	14
By Carsten Ahrens	
What They Mean to You	17
By Nick Sisley	
Made to Fly	22
By Eugene R. Slatick	
Let's Look at Pennsylvania's Loons	26
By Donald S. Heintzelman	
Can You Give Us a Conservation Project?	27
By Joseph B. C. White	
The Woodland Drummer	29
By W. W. Britton	
Chain Saw Safety	45
By Jim Hayes	

NEWS

Field Notes	34
Conservation News	39
Hunter Safety Education	43
By John C. Behel	

COLUMNS

A Naturalist's View of Wildlife (The Raccoon)	47
By Leonard Lee Rue, III	
Clean Gear Lasts Longer (Camping)	50
By Les Rountree	
For Golds and Game (Archery)	54
By Keith C. Schuyler	
A Look at the Semiauto Shotgun (Guns)	60
By Don Lewis	

COVER PAINTING BY CHUCK RIPPER

The otter is sleek, playful, graceful, intelligent—and almost extinct in Pennsylvania. Reliable estimates indicate only 50 or so are left, almost all of these in the extreme northeastern part of the state. Though fully protected here since 1952, this impressive furbearer has found it difficult to make a comeback, largely because he needs pure water to survive and today's polluted streams won't support him. The otter's luxurious pelt in times past made him one of the most eagerly sought furbearers in America. Those days apparently are gone forever, a fact none of us can be proud of.

Published MONTHLY by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$1.50 per year; \$4 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved.

NOTICE: Subscriptions received and processed by the last day of each month will begin with the second month following.

Printed by Times and News Publishing Co., Gettysburg, Pa.
Second Class Postage Paid at Gettysburg, Pa. 17325

On Deer, Deer Hunters . . . Etc.

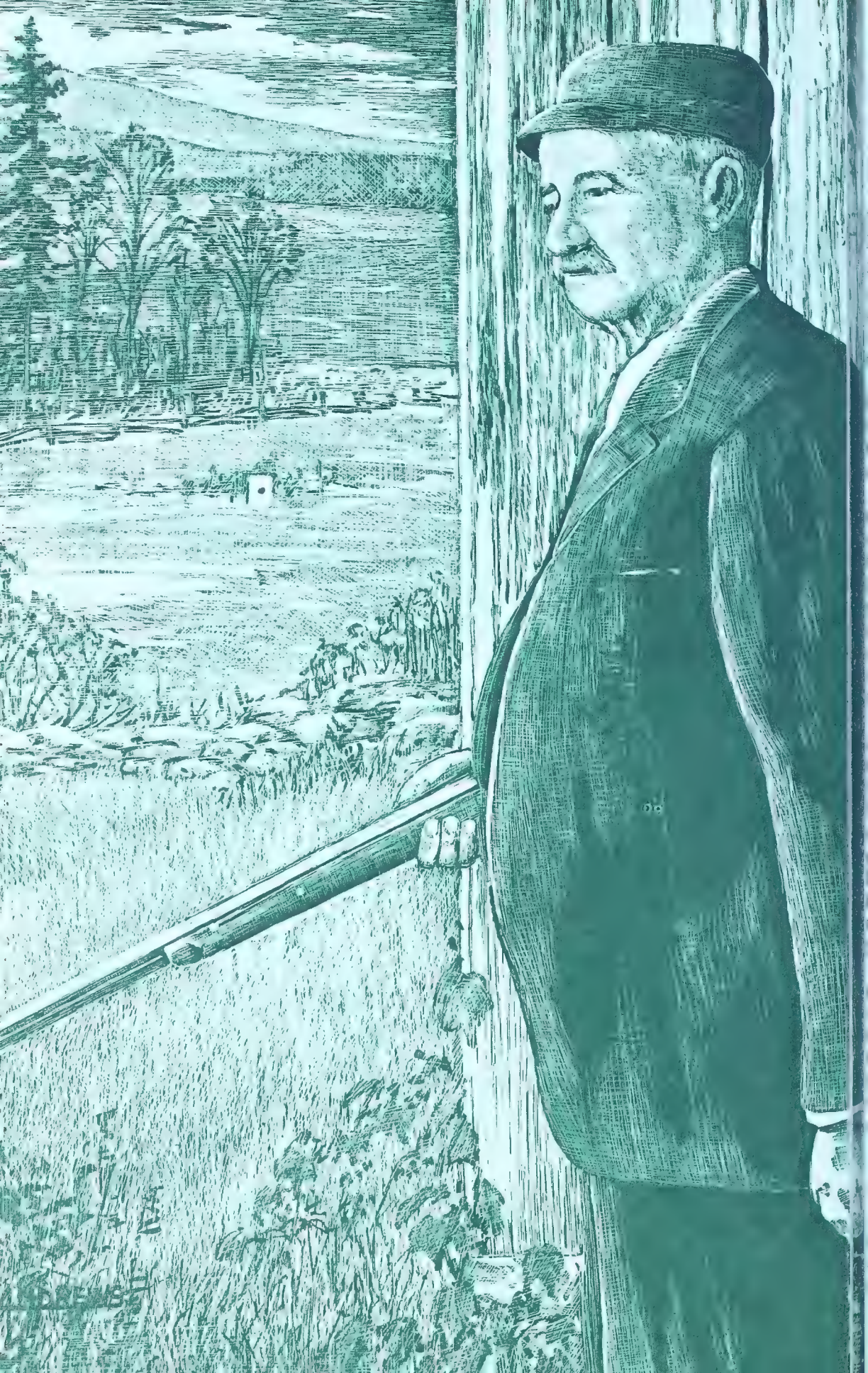
AS ANYONE WHO has read this page awhile must know, I like to hunt deer. I've chased them every chance I've had for over 30 seasons now, often in several states or provinces in a given year, and I've literally shot more than I can remember. This isn't unusual, I know; many of you have similar backgrounds. Still, I feel it helps me understand the average hunter's feelings on deer, for I'm a hunter too. At the same time, I'm an employe of the Game Commission, the organization which has the responsibility of properly managing the deer herd in Pennsylvania. Thus I have an opportunity to see firsthand both sides of a situation which most hunters view from only one angle.

I bring this up because I received many letters in the weeks following the 1970 season, letters complaining about a lack of deer, urging the closing of antlerless seasons, the protection of spike bucks, extensive feeding programs, complicated timber cutting systems, and other actions, all pointed toward solving the "deer problem"—which, to the hunter, always is simply a scarcity of deer. Yet there is no scarcity of deer in Pennsylvania, except possibly in relation to the over-population of recent years. On a statewide basis, this is obvious. As this is written, on January 14, more than 95,000 deer kill report cards have been returned, and they are still coming in. The total could well approach 100,000, which is very close to our wildlife biologists' preseason predictions. This will doubtless be one of the best harvests in the nation. Nevertheless, hunters, as a group, would prefer more. They'd like a trophy buck on every acre. As a hunter, I would too. But this isn't possible and we should face the fact. A given amount of range and food will support only so many animals, be they whiteface steers or white-tailed deer, and to think otherwise is irrational. To try to support more than the optimum number is, in the long run, self-defeating. It will lead to ruination of the range and decimation of the herd through starvation or disease.

I won't go into the deer management picture here, as Ted Godshall gives a general survey of the situation in our Conservation News section this month and last month Harvey Roberts explained how the number of antlerless deer licenses is determined and allocated. Most hunters' questions are answered in these two articles. This is not meant to suggest you should not question any situation if it is unclear to you. It is the hunter's license money that supports Pennsylvania's game management programs, and the man who buys a license is in effect a stockholder in the program and fully entitled to an explanation of what's going on.

As in any other field, though, it would seem logical to seek answers from the persons who know the most about the subject. In the case of Pennsylvania whitetails, the Game Commission's biologists have more facts than anyone else. They don't have all the facts, as they readily admit. (Only the fellow who spends 2½ days a year hunting deer in one small area has *all* the facts; it's easy to know everything about a subject when you have no idea how much there is to know.) Nevertheless, after working five days a week, 50 weeks a year, with deer, the biologists have a few more facts than most. Even more than some newspaper writers who blithely outline the path to a deer hunter's Utopia in a single column of type. As always, sketching out

(Continued on Page 42)



Rifle Retired?

By Al Shimmel

GEORGE handed me the rifle and pointed to the slab that rested against a stump a good 40 yards distant. He had touched the freshly sawed wood with a hot iron taken from the shop forge. The spot of seared wood made a perfect target.

I looked from the rifle to his face. His blue eyes were a twinkling challenge under their shaggy gray brows but his face was a mask that told me exactly nothing. Doubts were mine.

In spite of his age there was a touch of the puckish small boy in his personality. He was on occasion a prankster. A visitor to his smithy sometimes was offered a pickled hot pepper speared on a freshly cut splinter of wood. The smith consumed them with impunity. I had long before tasted this fiery tidbit. It made a lasting impression.

I braced myself. A point of light caught the percussion cap as the hammer came to full cock. Pressure on the rear trigger set it to fire at a breath. Slowly the narrow silver blade moved up to bisect the lower half of the dark spot on the slab. I tensed, anticipating the recoil. With a touch on the fore trigger there was a flash, a puff of smoke and a light report, but the expected recoil was absent.

George, aware of my misgivings, saw the amazement in my face. He slapped my shoulder with a calloused hand and roared with laughter. We walked to the target. There was a neat hole where the bullet had gone through the lower edge of the charred spot.

We walked back to the shop. The bullet pouch and powder horn hung from a peg above the bench. The threaded cap of the powder horn served as a powder measure. He recharged the rifle as I watched. A dozen shots proved that, as he put it,

"She shoots close enough for squirrels."

It was an interesting firearm, small and light in comparison with other percussion cap rifles I had seen. It was an inch under four feet in overall length. The 31-inch octagon barrel was rifled and had a .375-inch bore. The stock was of maple, scarred and cracked from long use. Both front and rear sights were set in base bars that fitted into barrel slots for horizontal adjustments. Elevation was left to the judgment of the rifleman to hold high or low as the distance required.

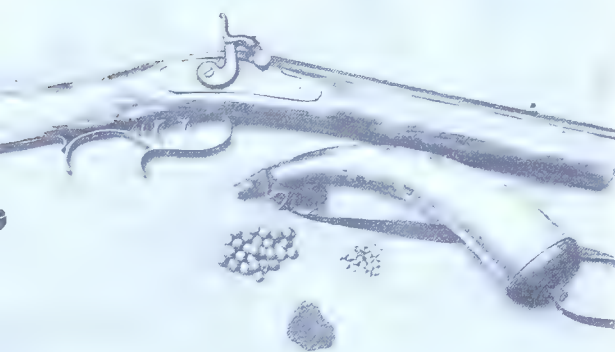
Surprisingly Well Balanced

I rubbed the scarred wood of the stock, examined the craftsmanship of the fine engravings that marked the hammer and the worn metal made bright by constant use. It was surprisingly well balanced, not at all muzzle heavy as are many guns of this type. George must have read the longing in my eyes. He grinned at me. "Someday she'll be yours."

I followed George down the winding timber road that led toward the hollow. Hickory and maple leaves filled the ancient wheel ruts. The oaks still carried full crowns. Our breath made gray clouds against the pale crispness of the dawn. When we reached the spring that welled from the base of the bench and trickled down the wooded ravine, we stopped, dipped the worn gourd that hung from a convenient branch and drank in turn, shivering a little from the coldness of the water.

We stood together, turning our ears to the stillness of the morning. A pair of squirrels chased each other among the trees far out of range. Three big shellbarks and several huge

oaks stood together as if for company. From somewhere overhead pieces of nut shell dribbled down to patter on the leaves below. Across the ravine a maroon-leaved gum was crowned by a tangle of wild grapevines in which we saw a new drey made of still-green leaves.



SOMETIMES, A "RETIRED" rifle, such as this old muzzle-loader, can provide more shooting fun than a modern, scoped breechloader.

I pointed to the buttressed roots of a big red oak. George nodded and turned away. I watched his retreating figure as he made his way around the hill to his favorite stand. With the pouch and horn slung over his shoulder and the little rifle cradled in the crook of his arm, he seemed truly a figure out of the past.

By cutting a few corners and practicing a strict economy I had accumulated sufficient funds to acquire Marlin's then latest 22 rimfire, a Model 39 lever action. It proved to be amazingly accurate at targets. This would be my first opportunity to try it on game. I counted a dozen Long Rifle hulls into the loading port of the tubular magazine and closed it with a quarter turn. I levered a cartridge into the chamber and lowered the hammer. Perhaps I could hold my own with George. . . .

A struggling maple sapling growing nearby still clung to its scarlet

leaves. My attention was drawn from its beauty to a flurry of action high in the branches of a hickory. Two squirrels scolded each other while I tried in vain to catch sight of them. Suddenly, all was still except for the pieces of shell that rained down from their breakfasting.

A gray flashed around the trunk of an oak and hung horizontally a few yards from the ground. His tail jerked with excitement, keeping time to his hoarse barking. The ivory bead centered his skull and my finger began to tighten on the trigger. The report of George's gun broke my concentration. The squirrel dropped. George's bullet had gone through its shoulders two inches to the right of my hold.

Five for Twelve

My dozen hulls produced five squirrels and some humiliating misses. One animal popped his head over a crotch twice in rapid succession and got off scot-free. The first bullet nicked the bark close to its head while the second buried itself in the tree trunk just under its chin. Another peeped over a log, then ducked as the bullet plowed a furrow where its head had been an instant before.

The chill was gone and the sun had been in the trees for an hour when George appeared. He laid out six squirrels for my inspection. All were head shot except the one which had been taken in the shoulder. He confessed to two misses. I noticed that he had chosen young squirrels. Tender fryers was his explanation. . . .

In the hill country, the tradition of the Thanksgiving Turkey Shoot carried well into the first quarter of the 20th Century. Rules were simple: any rifle with open sights, standing position only with both elbows held away from the body, slings prohibited.

The targets were four-inch squares of cardboard on which bisecting lines were drawn from diagonal corners. These were held against the target slab by a tack. The shooter was per-

mitted to blacken the center of the target if he so desired. The object was to drive the tack at 40 yards.

Each round consisted of 20 shots at a quarter each. The winner took a live turkey as his prize while the second closest was given a dollar called "second money." Each shooter was limited to two wins. The atmosphere was one of general good fellowship and friendly rivalry. An occasional rivalry carried over from year to year.

I had been delayed getting to one shoot. It was shortly after noon when I arrived at Ed's barn. Shooters were gathered under the overhang that protected them from sun and wind. The hay racks at the rear were lined with rifles. Here they remained until the shooter's target number was called. He took his rifle to the firing line before loading it. This rule was strictly enforced in the interest of safety. Immediately after firing, the rifle was returned to the rack.

George was standing with a group of friends watching the firing. I noticed he was wearing his pouch and powder horn. A turkey lay at his feet, its feet and wings neatly trussed. When the last number was called, George took the little gun from the rack and walked to the line. He was grinning broadly as he charged the piece amid the good-natured quips hurled in his direction. Several close shots had been made in this round.

Drives the Tack

When he raised the rifle there was a silence, broken only by the *quit-quit* of the penned turkeys. I read determination in the squint of his eye and the set of his jaw. He raised the rifle slowly, as if deliberately holding us in suspense. As it came to a level I saw the familiar flash and heard the light report. The puff of smoke drifted away. I glanced toward the slab. The cardboard square lay on the ground. George had driven the tack. . . .

Not long after that shooting match, tragedy overtook George. Due to a shop accident, he lost both legs. Al-

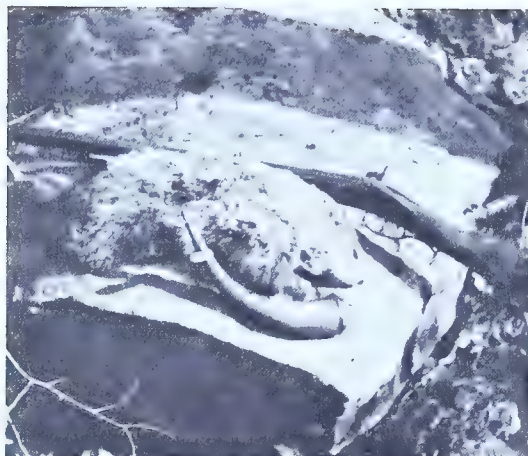
though confined, he continued to work with his craftsman's hands. A certain amount of the old puckishness remained. Occasionally he fished his favorite river from a wheelchair. A year or two passed. Then, one day, the news came. George was gone.

Months went by. Then one night George's son-in-law came to my home, handed me a neatly wrapped package. "He was still working on it when the end came," Art said. "He meant it for you."

I stripped off the paper and unrolled the oiled flannel wrappings. George had laboriously carved a new stock, complete save for the fore-end and the inletting for the patch box. A half-dozen round balls, the bullet mould, a box of caps and the powder horn, half full of powder, were included. It was almost as if George were repeating the words of many years before, "Someday she'll be yours."



THE OLD-TIME 375-CALIBER is surprisingly well balanced, Shimmel finds, and has the accuracy, even with round ball projectiles, for squirrels.



AS PHOTO PROVES, even a tough woodchuck is no match for a properly placed shot from muzzle-loader. Note graceful old powderhorn.

In 1969, the community in which George had lived celebrated its sesquicentennial. Included in its festivities was an antique show in which George's rifle had an honored place. A demonstration of the method of loading and firing as well as its accuracy drew much interesting comment. Many of the spectators had been George's friends.

I surveyed the damage with dismay. In the soil that I had so carefully cultivated the day before were the unmistakable tracks of the old woodchuck that lived under a stone at the far border of the orchard. Instead of thriving bean stocks, only short stems remained to mark a portion of three rows. How could one animal eat so much?

Early the year before he had wandered down from the hill fields and dug a new den. There had been a watchful truce between us so long as he respected the garden. The new

beans had proved too much of a temptation. I resolved to take measures.

I opened the gun cabinet. There were several rifles that would do an efficient job. Among those gleaming in the light stood George's rifle. Why not? I had not fired it in several months. I ran a wire through the nipple to make sure it was clear, then picked up the horn and pouch. . . .

At the edge of the garden I paused to load the rifle. On the ball in the palm of my hand I poured a neat cone of powder to cover it. I had often seen the original owner measure a charge in this way. A ball set on a greased flannel patch was placed in the muzzle after the powder had been trickled down the barrel. When it had been pushed almost flush with the bore, the excess cloth was trimmed away and the load was firmly tamped into place. A selected cap was placed over the nipple and twisted slightly to seat it firmly. The hammer was then gently lowered to hold the cap in place.

He came out of the brush at the edge of the orchard, looked suspiciously at the vegetation that screened my hiding place, and then turned away. At the shot he pitched forward and lay still except for the very tip of the tail that vibrated for a second or two.

Now I'm looking forward to squirrel season. I know a spot where the big hardwoods have a population of grays that needs thinning. Last night I cleaned and polished the rifles. Balls, caps and a half horn of powder are on hand. Suddenly I have the urge to try it once again. Outdated? Yes. But rifle retired? Perhaps not. . . .

Lots of TLC

The female condor lays no more than one egg every other year, and both parents spend an average of 45 days incubating the egg, five months brooding the chick and nine months feeding it after the youngster has left the nest.



Transplanted Wild Pheasants— an Answer?

By Fred E. Hartman
Pheasant Specialist

PHEASANT POPULATIONS in Pennsylvania have come a long way from the first attempted release of a small number of birds in Clinton County in the mid-1800s. Major efforts in pheasant stocking started about 1915. Pheasant abundance increased markedly to 1930, and pheasant range extension continued from the late 1920s through early 1950, with contributions made by both native and pen-reared ringnecks. Thereafter, once the birds were established, stocking probably contributed little to the rapid population growth made mostly by native birds. The pheasant had established good breeding populations in the better farming regions of the state, especially the southeast and southwest.

Because of heavy hunting pressure in pheasant range, the closed season on hens since 1923 has been an important factor in the growth and expansion of pheasant populations.

Presently, stocked pheasants add little to the overall population. Spring stocking of cocks and hens in primary range has been eliminated because these birds add very little to the hunter's bag where native pheasants are plentiful. In secondary range more emphasis has been placed on this type of stocking, but more research is needed to determine the real value of

spring stocking in such areas. Stocking in third-class range consists of put-and-take stocking of cocks in the fall.

Along with population fluctuations that have occurred in some areas of the state during the past 15 to 20 years, some pheasant range expansion also has taken place, particularly in western Adams, Perry and Juniata Counties. Yet, there are still some areas in the state that from a land-use appearance pattern seem able to support pheasant populations in at least reasonable numbers, but do not. In fact, some of these areas have almost no birds in spite of much stocking of game-farm birds.

Some probable reasons that these areas have few or no pheasants are the following: (1) pheasant population that is low in numbers may have some type of density dependent inherent genetic and/or physiological characteristic that keeps the birds at a low threshold of abundance. Until the time that this type of population breaks the barrier of having too few individuals to make a significant population increase over a period of time, the population will remain at a static low. Because pheasants are gregarious, it may be that in a small population they lack the drive to perpetuate their own. (2) Too small an area for pheas-

ants to be seemingly plentiful. Small areas usually do not contain many pheasants. In a contained or restricted area of 3000 acres or less, and given an optimum fall density of one pheasant per five acres, the maximum fall population would be 600 pheasants. Assuming a 1:1 sex ratio, this would be, at best, 300 roosters available to hunters. A more normal fall population would be 300 birds, of which 150 would be cocks. One hundred hunters could make the cocks scarce after opening day. (3) Land use pattern out of balance. Perhaps not enough diversity in crop or habitat pattern. Not enough corn or winter grain grown. Maybe too much pasture or too many woodlots. (See "Save Your Pheasant Land," GAME NEWS, March, 1970, for further explanation of land use patterns and pheasant range classification.) (4) Adverse weather conditions in certain regions of the state and/or in the microclimate. (5) Lack of proper soil fertility or an improper mineral content of the soil. (6) Not enough birds released at one time into an area and thus failure to make a good start toward establishment. One of the above factors may account for the lack of pheasants in these areas, but it is more likely a combination of



TRAPPED WILD PHEASANTS were released in Centre County's study area in 1964, '65 and '66. All had PGC-numbered leg bands and either wing markers, as above, or . . .

them. In a few areas with low populations, evidence indicates their numbers are increasing slowly.

During the initial establishment of the ring-necked pheasant in this state, a number of populations were started by the release of pen-reared birds. Once local populations became permanent, many of these groups expanded their range by natural reproduction. In addition, some pheasants from these groups were moved to other areas devoid of ringnecks. Unfortunately, these earlier transfers of wild birds to new areas either have not been documented or have been obscured by other factors. Cramer (1964) has documented the transfer of wild birds from an estate in Lehigh County during the early 1930s. He states, "Each winter . . . for several seasons we would trap and ship from the Fuller estate approximately 1000 pheasants." These birds were released into various sections of southeastern Pennsylvania. Unfortunately, no known follow-up was conducted. It is believed that they produced other populations, as evidenced by the excellent pheasant populations in southeast Pennsylvania.

Indiana Pheasants

Currently, the state of Indiana also is attempting to start pheasant populations in unoccupied areas by releasing trapped wild stock. Although they have not been dealing with a large number of birds, they have established a rather stable local population in one area (Feldt, 1969).

Since the stocking of game-farm ringnecks did not establish pheasant populations in some areas that appear suitable, Game Commission biologists assigned to the Pheasant Project decided to try some trapped and transplanted wild pheasants. Perhaps the practice of relocating wild birds could produce permanent populations.

Several areas having few or no winter holdover of pheasants were investigated. Some of the prerequisites in selecting an area were: little or no winter holdover of birds; isolation

from other pheasant areas; a size of at least 10,000 acres; habitat that appears comparable to that of primary pheasant range; and be such that the Commission can control the stocking of pheasants.

Centre County Area

One area selected is in Centre County. From a land-use pattern it resembles primary pheasant range. Cropland comprises 70 percent of the area, and woodlots, odd areas, and homesites make up the remaining 30 percent. This area has more fencerows and woodlots (thus more escape and winter cover) than much primary range. It contains more than 18,000 acres and is isolated from other pheasant areas by mountains on three sides. Prior to stocking of trapped wild pheasants, only a few birds wintered over here in a small pocket in one corner.

There were no significant differences in precipitation between this area and primary pheasant range in southeastern Pennsylvania. The yearly average temperature was 3° to 5° F. cooler than temperatures in southeastern counties, and 6° F. warmer than the primary pheasant range in South Dakota (Myers, 1968).

From 1949 through 1963, 2000 males and 1000 hens, all pen-reared, had been released in this location. No self-perpetuating population was established.

During late winter in 1964, 1965, and 1966, wild pheasants were released on this study area. These birds were trapped on areas closed to hunting in the Northcentral and Southeast Divisions of the state. Instrumental in the trapping and handling of these birds were Game Protectors, Game Farm personnel, and federal and state institutional personnel. The numbers of birds released each year were: 1964, 48 cocks and 356 hens; 1965, 52 cocks and 332 hens; 1966, 35 cocks and 183 hens. These birds were uniformly distributed at 13 sites in this area. All released birds were banded with Game



... BACK MARKERS, as shown here. These made visual observation comparatively easy. In the three years, 135 cock-birds and 871 hens were released on the area.

Commission numbered leg bands, and were marked for visual observation with wing markers and back tags.

Faculty and graduate students from the Pennsylvania Cooperative Wildlife Research Unit and the Wildlife Management program of the School of Forest Resources, Pennsylvania State University, assisted Game Commission biologists and Game Protectors in collecting field data. In addition, graduate student James Myers studied this population as his thesis project for two years (1966-68). Field data were collected by winter counts from 1964 through 1970; cock crowing counts; brood observations; trapping, marking, and subsequent observations of pheasants; fall roadside and field counts; hunter bag checks; and landowner surveys. These methods provided information about pheasant population densities and sex ratios during the various seasons, and on hunting pressure, pheasant harvest levels, movements, breeding populations, reproductive success, and land-use patterns.

Live-trapping was conducted during the winters of 1966-67 and 1967-68 at four sites on the study area to collect information on the movements

TABLE 1

Pheasant Population Data from the Centre County Study Area

Time of Year	Average Kill per Landowner Contacted	Winter Census		No. of Crowing Cocks	Calculated Spring Population on Study Area ^a	Calculated Breeding Population per 1000 Acres
		No. Birds Seen	Sex Ratio			
Fall, 1964	2.0?	—	—	—	—	—
Winter, 1964-65	—	66	1:7	—	—	—
Spring, 1965	—	—	—	12	96	5.3
Fall, 1965	1.4	—	—	—	—	—
Winter, 1965-66	—	121	1:11	—	—	—
Spring, 1966	—	—	—	10	120	6.6
Fall, 1966	2.5	—	—	—	—	—
Winter, 1966-67	—	94	1:7	—	—	—
Spring, 1967	—	—	—	28	224	12.4
Fall, 1967	2.5	—	—	—	—	—
Winter, 1967-68	—	112 (229)+	1:4	—	—	—
Spring, 1968	—	—	—	73	365	20.1
Fall, 1968	3.0	—	—	—	—	—
Winter, 1968-69	—	145 (126)+	1:11	—	—	—
Spring, 1969	—	—	—	38**	456	25.2
Fall, 1969	4.2	—	—	—	—	—
Winter, 1969-70	—	203 (459)+	1:6	—	—	—
Spring, 1970	—	—	—	40++	280	15.6

^aCalculated spring population is derived by multiplying the number of crowing cocks times the sex ratio (males plus females) established during the winter census.

**This figure could be as high as 45 males.

+ Figures in () are landowner reports.

++ About 50 males on area.

and home range of resident birds. Each captured bird was banded with a Commission numbered leg band and marked with a color-coded plastic backtag for visual identification.

In the winter survey, Game Commission and Penn State wildlife personnel checked fencerows, woodlots, and brushy areas on the area for pheasants. These surveys lasted several days and the majority of the birds on the area were accounted for.

The crowing cock survey, following the same route each year, also was a reliable population indicator. From late April to mid-May, 1965 through 1970, crowing cock counts were made to obtain an index of the males that were available for the breeding season. The number of crowing cocks multiplied by the winter sex ratio gives

an approximation of the breeding population.

The results of this transplanting, to date, are gratifying. The growth of the pheasant population on the Centre County area is readily seen in Table 1. The population has increased about threefold from the spring of 1965 through the spring of 1970; the general trend has been upward. Pheasants now are found wintering at 12 sites on the study area whereas prior to the study none wintered at these sites. That the population has increased is first noted in the table under "Winter Census—Number of Birds Seen." Complete snow coverage greatly aids the completeness of the winter field census. In this light, during the first three years the snow cover was fairly complete. However, during the

censuses of the winters of 1967-68 and 1968-69, snow cover was almost non-existent. Therefore, more birds probably were missed during these two years; yet, in spite of lack of snow cover, note that the count was higher these two years. The 1969-70 winter census and landowner contacts indicated more birds wintered over than during the previous winter.

The abnormally high number of cocks located in the spring of 1968 (Table 1 — "Number of Crowing Cocks") is no doubt due to the low harvest of this sex in the fall of 1967 because of heavy cover conditions and much standing (unharvested) corn during the hunting season. This low harvest is reflected in the 1967-68 winter sex ratio (1 cock : 4 hens). Locations of 40 crowing cocks were plotted on the study area map for the spring of 1970. However, observations on the area suggest that about 50 roosters were present. In that year, the crowing counts were not conducted on days having ideal weather conditions, thus more birds may have been missed.

The fifth column of Table 1 lists the calculated spring population for each year. This figure is derived by multiplying the number of crowing cocks

by the winter sex ratio. It should be emphasized that these figures show a definite increase each year. The spring, 1970, figures for "Calculated Spring Population on Study Area" and "Calculated Breeding Population per 1000 Acres" appear too low, especially in relation to the former figures (1969 harvest and 1969-70 winter census and landowner survey) which show an increased population. In addition, results of the 1969 hunter bag-check show a considerable increase in the pheasant harvest by transient hunters.

Most Severe Winter

The 1969-70 winter was the most severe on this area since this study was initiated. This put the birds to the supreme test—survival. In spite of the rigorous weather (subnormal cold and prolonged periods of deep, continuous snow cover) no losses due to winter conditions or lack of feed were found or reported. Plus, the birds were well distributed over the area.

A 1969 pre-hunting season field check yielded a flush index of 2.6 pheasants per hour. In primary range in Lebanon County the flush index was 18 pheasants per hour.

The landowner survey (Table 2), although of a general public opinion

THE RING-NECKED PHEASANT, a brash, aggressive creature, shows his instincts here as one leaves almost before crate is opened.



TABLE 2

Survey of Landowners in Centre County Study Area. This Survey Was Conducted at the Conclusion of the Small Game Seasons, 1964-65, 1965-66, 1966-67, 1967-68, 1968-69, to Provide Information on Pheasant Harvest and Survival.

	1964	1965	1966	1967	1968	1969
Landowners checked	NA	116	56	44	23	31
Cockbirds harvested	100	166	143	113	68	130
Cockbirds harvested per landowner checked	NA	1.4	2.5	2.5	3.0	4.2
Pheasants wintering over	175	344	193	229	126	459
Pheasants wintering over per landowner checked	NA	3.0	3.3	5.2	5.5	14.8
Winter sex ratio as indicated by landowner survey	NA	1:4	1:9	1:5	1:3	1:3

NA—Not available.

nature, also shows an increase in pheasants on this area. This can be particularly noted in the more important sections of kill per landowner and number of birds wintering over per landowner.

Average Distance Traveled

The average distance traveled from the point of release by the transplanted pheasants was 1.3 miles. Eighteen pheasants were trapped, marked, and released at the trap sites during two winters on the area. One captured hen was observed three times over a two-year period. In the winter of 1967 she was seen 300 yards from the capture site, 10 days after being trapped. In the summer of 1968 she again was observed, with a brood of 11 young, within 150 yards of the trap site. During the winter census of 1968, this hen was seen within 350 yards of the trap location. In April, 1967, another female, captured on February 11, 1967, was found as a road kill 1.3 miles from the point of capture. During the 1968 winter census, the two males which had been trapped that winter were observed at a distance of 100 yards from the trap sites. All these movement distances compare favorably with the winter to spring movements of wild pheasants in primary range, both in southeastern Pennsylvania (Hartman, 1967) and in Wisconsin (Gates, 1963),

where the average travel distances were 0.5 to 1.0 and 1.4 miles, respectively.

The trapping and transferring of wild pheasants to introduce the species into suitable unpopulated areas is a concept of game management that warrants attention where the stocking of game farm birds has failed to produce a perpetuating population. This initial attempt at transplanting wild ringnecks has thus far produced a self-sustaining and growing population. As mentioned previously, the severe winter of 1969-70 tested the over-wintering capabilities of this Centre County population. The winter survival was a major question in this test of transplanted wild birds, and the ringnecks passed with flying colors. This population should continue to be studied periodically to note any changes or static condition in pheasant numbers. The stocking of pen-reared birds in this area and in similar areas should be restricted or eliminated.

Wild pheasants were released into a new area in Schuylkill County for the first time in late winter of 1970. Thirty cocks and 272 hens were liberated in this initial stocking. Although it is too early to make any conclusions, the initial results are encouraging. During the summer of 1970, almost three dozen broods were sighted.

More areas devoid of pheasants but

with apparently suitable pheasant habitat should be stocked with wild birds. A number should be tried. Not all may result in established populations, but all warrant an attempt. Stockings should be made for three successive years and with at least 400 birds at a ratio of from 1 cock : 5 hens to 1:10 each year. Prospective areas should be selected by study of the pheasant range map, consultation with Game Protectors, and in-field inspection of the areas by Game Protectors and research biologists. After stocking several third-class range areas, the next appropriate step will be to stock wild ringnecks in second-class range, where pheasant populations are low to medium in density and apparently are not increasing. It is hoped that such a "shot in the arm" will boost secondary pheasant populations to greater abundance.

In an effort to continue its progressive pheasant management program, the Game Commission will continue to select and stock suitable areas with wild pheasants where game farm birds have failed. It must be realized that not all areas blessed with an abundance of fields and/or other non-forested areas are suitable for perpetuating pheasant populations. The stocking of an area with wild pheasants does not guarantee a booming ringneck population for that area nor,

in the case of a successful planting, will the numbers of birds skyrocket overnight. It all takes time, but there is hope.

LITERATURE CITED

Cramer, W. M. 1964. The pheasant trapping trail. Pennsylvania GAME NEWS 35(8):2-8.

Feld, R. D. Personal communication to Fred E. Hartman. January 29, 1969.

Gates, J. M. 1963. Seasonal pheasant movements and habitat requirements. Research in Wisconsin, Wisconsin Conservation Department, p. 54.

Hartman, F. E. 1967. Trapping of wild pheasants and broods on study areas. Pennsylvania Game Commission. Pittman-Robertson Project W-64-R-6. Mimeo. 3 pp.

——— 1970. Save your pheasant land. Pennsylvania GAME NEWS 41(3):48-50.

Myers, J. E. 1968. Ecology of the wild-trapped and transplanted ring-necked pheasant near Centre Hall, Pennsylvania. Master's thesis, School of Forest Resources, The Graduate School, Pennsylvania State University. 47 pp. (multilithed).

I would like to acknowledge the assistance provided by Dale E. Sheffer, Chief, Division of Research, Pennsylvania Game Commission; James L. Myers, former graduate student, School of Forest Resources; and Dr. John L. George, Associate Professor of Wildlife Management, School of Forest Resources, Pennsylvania State University, in preparing this article, which is a contribution of Federal Aid Project W-64-R.—F.E.H.

New Deer Booklet Published by Game Commission

"The White-Tailed Deer in Pennsylvania" is the title of a new booklet now available from the Pennsylvania Game Commission. Written by Stanley E. Forbes with the assistance of Lincoln M. Lang, Stephen A. Liscinsky, and Harvey A. Roberts, all wildlife biologists, this publication gives much information formerly unavailable to the general public. Seven chapters cover the whitetail's life, clan, home, enemies, conflicts, benefactors and future, and there is a chronological listing of all important laws affecting deer management in Pennsylvania. General topics covered include growth rates, antler development, reproduction, population structures and changes in herd composition, sex and age ratios, reproduction potential, methods of determining deer population, live weight-dressed weight graph, and many others. This 40-page booklet may be ordered from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120. The price is 50 cents, delivered.



CAVE RAT

By Carsten Ahrens

I USTA BELIEVE in proverbs like pens bein' mightier as swords, and that animals is honester as people, but one weekend cured me of that.

Me and Honest Bill was working that Saturday night near Ridgepole, a town in the 'Cheny Mountains. We was hanging out in a cave above the settlement and we had moved down about sundown.

You know you can't stop farmers from getting to the bright lights come Saturday night . . . car or no car. They'll walk, needs be. Like the migration of birds . . . when it's time to go, they go. Me and Bill both liked nature.

We'd wait until some oldish, substantial-looking fellow came walking along alone and we'd give him a rap or two over the head. Then when he was quiet like, we'd go over his effects and take what we fancied before rolling him gently over the cliff. We always picked the site careful like, and we never did two jobs within 500 miles of each other.

Neither of us cared much for money as long as we had traveling expenses and a little besides. We always worked as close as we could to a bus line and studied their schedules. We never hung around to find out, but I don't believe any of our "victims" — that's what the newspapers called em—ever kicked the bucket because of us. We'd catch a bus then and soon be in another state . . . states is close together over East.

Well, this particlar evening, everything was mighty nice. We'd met an old farmer who was hoofing it into Ridgepole. And before we rolled him limp over the side of the road, we lifted his wallet with 150 dollars besides some gadgets we hankered after. He'd a fountain pen, and I must confess I had a weekness for pens even

though I never wrote much. My coat pockets, all five, and my vest pockets, all four of'm was lined with fountain pens. Honest Bill said I looked like a traveling pipeorgan; he'd take an extra dollar when we divided the bills and hand me the pen when there was one. Bill wasn't a hobbyist like me. Pens is mighty mightier as swords, I reminded him when he tried to kid me. I couldn't see how they could be, but I didn't tell him that.

Well, when we got back to the cave we was feeling fine. The moon was so bright we decided to sleep in the entrance. There was no bus outta this neck of the woods afor morning. Just for fun I took out all my pens, three dozen, and arranged 'em in a semi-circle around my head and as I laid on my stomach I watched the moon dance on 'em. They was all colors. I put the new pen at the end. I was thinking they was just like a halo when dang if I didnt fall asleep!

When Bill woke me up, the sun was already up too. He was sitting leaning against a boulder with his hands folded on his middle, looking as content as a baby what has just had a good burp.

Assortment of Junk

And then I remembers my pens. Where they had been, was the fooggiest assortment of junk I ever seen. Acouple stones, acorns, hunks of bark, sticks, a milkweed pod, a bone, and other stuff. There was as many pieces of stuff as there had been pens. I looked at Bill:

"Honest Bill," I sez, "where is my pens?"

"Howdy," he sez, "I never use pens; I write my pombs on a typewriter."

"Bill," I sez, "I had my pens when I slept but they is gone now . . . produce 'em."

"Howdy," he sez, "I know nothing about your pens," I could see he aimed

to be stubborn, "and furthermore," he sez, "we have jest forty minutes to walk one and one-half miles to catch the bus."

"I ain't walking out of here and you ain't neither less I have my pens."

Bill took out the farmer's wallet, fat with his half of the farmer's money, and threw it on the ground between us and sez, "I'll wager that wad that I ain't got no dang pens. . . . We gotta get goin'!"



EVERYTHING WAS GOING fine till we got involved with that big cave trader rat that liked pens, 'cause when we did, I ended up in one.

I frisked him, but there warn't no pens. When I was through, Bill reached for his wallet, and it was gone . . . or going! Right in front of our eyes was one of those big cave trader rats. He dropped the red corn-cob he was carrying, pushed his two long front teeth into the wallet and lugged it away! We both jumped for him. He was a dark grayish creature with a light tummy, lots of whiskers, and gleaming eyes; his tail was furry, not like a rat at all. But he was too quick for us and disappeared into a hole in the side of the cave.

Honest Bill sez, "I hope you is satisfied and now know where your pens is, smart guy. We have twenty-five minutes to make the bus."

"I ain't catching no bus till I dig this varment out and get my pens back."

"Well, so long to you," sez Bill, "I'm too much of a nature lover to risk being shut away from the birds and flowers. Effin you find my wallet, mail it to me in a sealed box to my sister Lizzie." He sighed. "She ain't as honest as me."

And away he went.

I dug for two hours. I used a sharp stick but oftener just my bare hands; my fingernails were worn down to the quick. Behind me I had a pile of rocks and rubbish shoulder high. And then I found the farmer's pen . . . and next his wallet, the one I was to send to Lizzie! I was examining its fat sides when I heard voices. I sneaked to the mouth of the cave and blundered right into the sheriff and that same dang farmer we slid over the cliff! Limp? He was as lively as a drop of water in a hot, greased skillet!

"Good day, gents," I sez sweetly, forcing a smile.

"That ain't him," sez the farmer, "he's too big," and then he saw his fountain pen. "Yes, it's him," and he grabbed his pen.

"Hands up," sez the officer. Next they found the wallet that was to be sent to Lizzie, but I couldn't prove nothin' because Honest Bill hadn't removed the auto license that the walking farmer had in it.

I was framed and I'm still away from the delights of nature.

There's been a lot of time for thinking and I grieve that cave rats have such thievish ways. Also I don't think that pens is mightier than swords is. And I do think pens is mighty uncomfortable places to be in.

Seems Like Enough

It is estimated that no fewer than 10,000 species of parasitic wasps inhabit the northeastern states.



DAVE GRUBB with top dog in Herb Cahoon Classic, **Elhew Quickdraw**, left; **Larry Lotz** with **Banshee's Baneful Bill**, owned by **Irv Monkhern**; **Gerald Tracy** with **Trac-haven Blitz**. Judges **Dave Fletcher** and **Verle Farrow**.

Field Trials for Pointers and Setters . . .

What They Mean to You

Focus--The Herbert H. Cahoon Open Shooting Dog Classic

By Nick Sisley

THIS PAST SPRING Pennsylvania saw perhaps its finest hour in bird dog field trials. Forty-eight outstanding dogs from all over the nation competed against one another in one-hour heats over the flood plains of the Conemaugh Basin near Blairsville, land owned by the Federal government through the U. S. Army Corps of Engineers and managed for wildlife by the Pennsylvania Game Commission.

There were eight professional handlers at this trial, Roy Manns and Ed Mugent of Virginia, Bill Martin and Harold Ray from Georgia, Dave Grubb of Michigan, Pete Hicks from North Carolina, and Henry Caruso, Jr., and Gerald Tracy from Pennsylvania.

The Greensburg Pointer and Setter Club (based in Westmoreland County) sponsored this great event for pointers and English setters. The big calling card for the stake was the \$1000 guaranteed purse. Their intention was to entice some of the "name" professional bird dog handlers to this event, thus giving the state an opportunity to boast a genuine, top-notch field trial.

This was the inaugural running of this stake, and it was successful beyond the club's wildest expectations. The club had been considering such a major trial for several years. This year they stuck their neck out and took the big step. A guaranteed stake with large purse is needed to attract the pro handlers who make their living at

this game. If few dogs are entered, and thus few entry fees collected, there isn't enough money to pay the winning handlers the guarantee. Consequently, club members could have had to dig deeply into their own pockets! They must be commended for taking the chance.

Herb Cahoon, for whom the stake was named, has been associated with bird dogs since shortly after the turn of the century. Unfortunately, he was ill and in the hospital during the running of this event. Herb is a member of the Field Trial Hall of Fame, one of only two members of Pennsylvania to be so honored, the other being Sam Light of Punxsutawney.

What Does Hunter Gain?

But what does a major field trial mean to a Pennsylvania bird hunter? Plenty! Hopefully this event will become an annual affair, giving Pennsylvania residents ample opportunity to see what top quality bird dogs look like in action. It goes even further, though. The best hunting dogs of the future will come from stock that has proven itself in field trials. If you have a female to breed, why not see how some of the top males run at a field

trial? Perhaps you know someone else with a female from which you would like a dog. You might encourage that person to breed to one of the great dogs you have seen. Perhaps after seeing a dog you particularly like, you will come across one of his offspring some years later.

But the importance of this stake doesn't end here. If you have a pointer or an English setter, you will get infinitely more out of him if you will take to the challenging sport of field trialing.

There are two classes of bird dog field trial stakes—Amateur and Open. In Open trials anybody can enter. In an Amateur stake, only those people who have never accepted remuneration for handling a dog may compete. The professional handler is excluded.

Many hunters are prone to say they don't want a dog out of field trial stock. They have heard so much about their wide running characteristics that they feel such a dog is poor for hunting. There is some truth to this, but don't be misguided too far. The big difference between a hunting dog and a field trial dog is in the training.

In the first place, a dog must have some degree of "run" in him if he is

BREAKAWAY OF ANOTHER BRACE OF DOGS—always an exciting moment. For the next 60 minutes these two covered the Conemaugh Dam course with abandon.



ever going to be a top-notch hunter. Lack of this quality means absence of desire in this writer's book. A dog from good bloodlines starts off somewhere in between the top field trial dog and the hunting dog. The hunter encourages his dog to check in often and (to a degree) remain within sight. A field trial man, if he intends to run in the big trials, encourages his dog to never putter around and to start reaching out, usually by running him out via horseback.

Speaking of horses, it would be well to point out that the horse wrangler is one of the major considerations in field trials. Riding every brace until the trial's finish is work. The favored type for field trialing is the Tennessee walking horse, noted for its smooth, even gaits. Spend a dawn to dusk day on a rough riding horse, and you may not be able to crawl out of bed the next morning. Also a judge, marshal, reporter, or galleryite cannot spend his time fighting a spirited horse. He is there to observe dogs. Finding an adequate supply of good horses is tough. In our state there are few Tennessee Walkers. It seems the quarter horse is most popular with our state's horsemen—and they are not field trialers!

Dale Bartley of Spotswood, Va., brought 16 walking horses to this trial, and they were all a pleasure to ride. Good horses are so much in demand that Dale makes his living transporting his all around Virginia and neighboring states to field trials.

Conemaugh Basin

The Conemaugh Basin is undoubtedly one of the best places in the state to show a wide-ranging bird dog. The Game Commission plants vast fields of corn, wheat, etc. Each is bordered by long hedgerows of autumn olive or multiflora rose. These fencerows provide birdy objectives for the dogs and secluded spots away from predators, with plenty of feed for the birds themselves. In most places a dog can be hundreds of yards out and still well in view.



WHEN BIRD IS pointed, handler dismounts, steadies dog and tries to flush bird. Dog's manners must be perfect throughout.

There are native pheasant at the Conemaugh Basin. The Game Commission augments these with both fall and spring releases. It is open to public hunting. The Greensburg Club did their share for this event, too. Every morning before the running started, they turned loose 50 pen-raised quail at strategic places. In addition, they released two more birds after the running of each brace of dogs. In total, they put out almost 250 quail for the meet.

This meant that the dogs had more than ample opportunity to find game. As many as 10 game contacts per hour were had by one dog.

For those not familiar with a bird dog field trial, here is how it works. The entry fee for each dog run defrays the expenses of the sponsoring club. They must pay for such things as horses, traveling expenses and meals



FIRST BRACE IN THE MORNING is always an exciting one. Anticipation builds high until judges finally call, "Turn 'em loose!"

for judges, released birds, and many other incidentals.

In some of the stakes, the entry fee is fairly low, \$5 or \$6. As a rule, the higher the entry fee, the better the dogs entered in the stake. In events with the lower entry fees, no prize money is given to the winners, only ribbons and perhaps a small trophy. For the novice field trialer, one of these is the place he should start. The emphasis is on fun, and unless it turns out you have a dog of exceptional ability, these trials are the ones to stick with. Dogs that range at hunting distances are usually the wearers of the winning ribbons here. They offer not only fun, but also many new bird hunting acquaintances, better insight into training and handling and, most of all, more time with your dog. Remember that your time with your dog, without field trials, is hunting season only plus perhaps a few training sessions thrown in.

Names in a Hat

Why didn't we concentrate on a smaller bird dog event for this story? Because the trial with the most importance can embody everything that need be told about this growing sport. You have paid your entry fee, what

next? A drawing is held. All the dogs' names are put into a hat, and the braces are drawn. Two dogs compete against each other for a set time limit over a predetermined course. At the end they are picked up and another brace is put down. This pattern is followed until all dogs have run.

Highly important to bird dog field trials are the judges. They must know their craft thoroughly. This Greensburg stake was judged by Verle Farrow of Clifton, Va., and David Fletcher of Morrice, Mich. Mr. Farrow has served in this capacity for many years now. David Fletcher worked as a reporter for "American Field" (official publication reporting on all sanctioned bird dog trials) for two years. In that time he annually saw 30 of the most important pointer and setter trials of the year, all over this country and Canada.

The judges watch everything that happens and make a decision as to which is the best dog. They need many years of experience to carry out this duty. What do they look for? Things like range, stamina, style, industry, how the dog handles, how it responds to wing and shot, and much more. The more important the stake, the more important it is to get quali-

fied men to ride the judicial saddles.

We can't forget the club members themselves. It takes a lot of work to put on even a small field trial, and the Greensburg Club has its share of workhorses. Total membership is only 45, so it requires their combined efforts to put over a trial the size of the Herb Cahoon Classic. One of the big jobs is that of field trial secretary. He must take the entries, tabulate much detailed information from winners, help get the dogs to the starting point on time, advertise, collect entry fees, and more. Dave Momeyer has handled this task for several years now.

Club President John Taylor puts forth his efforts in the wide variety of ways his office requires. Wake Murray and Kenny Graham were the marshals at this stake. It was their job to guide the judges around, keep the gallery in their proper places, etc. They have to ride every brace.

When the first brace was turned loose Saturday, April 11, the blue skies promised a beautiful day. The weatherman cooperated completely until the trial was finished the following Monday.

Elhew Quickdraw took first place. This male pointer, in his fifth year, had a strong, forward race that had the judges and the gallery on the edges of their saddles. In his 60 minutes, he had three finds on quail and another on a hen pheasant. His manners were impeccable and his style on point left nothing to be desired. Professional handler Dave Grubb of Lake Orion, Mich., had this dog down in the third brace on the first day. There were 21 more to run, and his performance became the one to judge following dogs by.

Quickdraw has won five champion-

ship stakes so far. He is certainly a top dog. Dave Grubb has a fine string which he shows at the major trials all over the country. He has been handling bird dogs for 10 years.

Second and third places went to Pennsylvania dogs handled by Gerald Tracy of Brodbeck's, York County, a highly competent man who has been handling dogs professionally for 15 years.

Banshee's Baneful Bill captured the second slot. He produced 10 perfect points and a startling race, though not quite as reaching as the winner's. Bill is only three years old, so you can look for big wins from this individual in future years. He is owned by Irv Mohnkern of State College.

Third place went to Trachaven Blitz, a litter mate to Banshee's Baneful Bill. Blitz is owned by Larry Lotz of Reading. It was the thirty-sixth field trial placement for this youngster!

A few of the dogs that were impressive but did not manage to get into the winner's circle were Tyson's Texas Sambo, handled by Roy Manns; Spellbound, owned and handled by Jiggs Paull of Hopwood, Pa.; Counterdrive, owned and handled by Gene Uhlman; Amos Duke, handled by Bill Martin; and Princess Ginger Magnum, handled by Gerald Tracy.

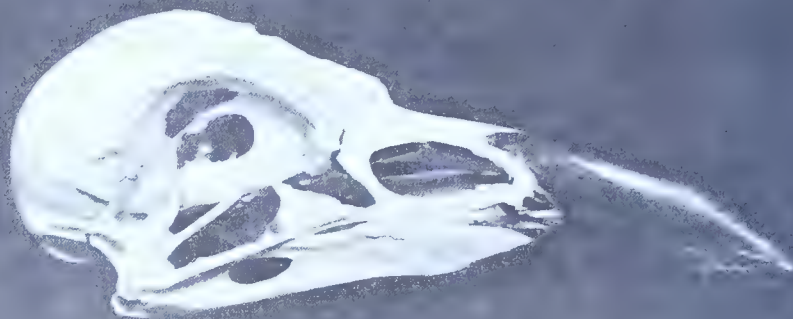
The crux of all this is that bird dog field trials are on the upswing in Pennsylvania. If you haven't given the sport a try, even as a spectator, you are missing out on a whole facet of the outdoors. The smaller stakes will get you 100 percent more out of your bird dogs. Watching and otherwise being a part of the major events, plus all those in between, will make you a better and more informed bird dog man.

But Can He Sing Under Water?

The water ouzel, a songbird of western U. S. streams, walks under water and feeds in streambeds.

Made to Fly

By Eugene R. Slatick



A BIRD'S SKULL CONTAINS A LOT of bone-free space, to make it light in weight, as shown in this cleaned crow cranium.

ANYONE who knows even a little about birds knows that if there is one thing most birds can do it is fly. And why shouldn't they? They are made to fly.

Look at a bird's body. It is compact, with the weight centralized for the best balance for flying. The bird's skull is lightweight and paper-thin. There are no teeth and jaws to add weight and throw the balance off (food is ground in the gizzard, inside the body). Even the number of muscles controlling eye movements have been reduced. This was no great loss because the bird's flexible neck can easily swivel the head around. The brain is modified so that the area concerned with smell is small, evidently because smell isn't very important to a bird. But the part concerned with hearing is well developed, and the area involving the all-important vision is larger.

Heavy, dangling legs wouldn't help a bird's streamlining and weight balance, so the leg muscles are on the upper leg, close to the body. Long,

pulley-like tendons manipulate the foot and toes.

The bird's framework, the skeleton, also reveals the underlying design for flight. Marrow such as fills the bones of other animals is absent from those of most birds. This means the bones are hollow and therefore lighter. For example, in a Canada goose weighing about nine pounds, the skeleton accounts for only about one-half pound. In some large soaring birds the hollow bones are reinforced with truss-like bony growths.

Many bones are fused together for strength. The pelvis, spine, and rib cage are fused together to make a firm framework against which the wings move. The common "wishbone" is simply two collar bones fused together to strengthen the place the wings are attached.

An important part of a bird's framework is the keel. It projects from the breastbone to provide a firm anchorage for the powerful flight muscles, which can account for about one-fifth of a bird's weight. The size of the keel

is a good indication of a bird's flying power. Relatively large ones are found in birds that flap their wings a lot. Flightless birds don't have a keel.

A number of other features also adapt the bird for flight. Efficient breathing is one. We "run out of breath" because our lung design is comparatively inefficient; we breathe in and out, but our lungs always have a volume of "dead air." But in a bird the air flows through the lungs, into air sacs, and then back out again. This double flow of air means that more oxygen can enter the bloodstream. In a sense, a bird has superchargers. Birds have seven to nine air sacs in addition to two lungs, all compactly fitted into the body.

Breath Control

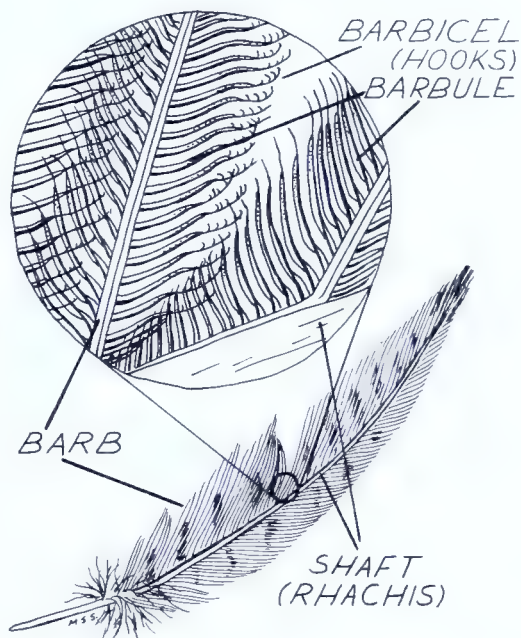
The rate of breathing is controlled efficiently in different ways. When the bird is at rest the breathing is controlled by various muscles in the body. But when the bird is flying and needs plenty of air, the flight muscles compress the ribs with each stroke, drawing air in and out.

Breathing for a bird also means cooling, for a bird has no sweat glands. And birds generate a lot of heat. Their body temperatures average more than 10° higher than ours. For example, the average body temperature of a Canada goose is 107° , a dove, 109° , and a robin, 110° .

Such a high temperature is a sign that the bird lives at a comparatively faster rate than we do—that energy and heat are produced at a rapid rate. Or, putting it another way, their motors idle faster. Because of this, the bird needs such high-calorie foods as seeds, fruits, worms, and insects.

Small birds lose more heat than large birds because they have more body surface area in respect to their body volume. So, they need more food to make up for the extra heat loss. A dove eats about 11 percent of its weight in food per day, compared with about three percent for the larger chicken.

The oxygen and nutrients taken in by the bird are pumped quickly throughout its body by a heart that beats rapidly. In general, the smaller the bird the faster the heartbeat. The normal rate is 400 to 800 beats per minute for small birds, 135 for the dove, and about 90 for the turkey. By



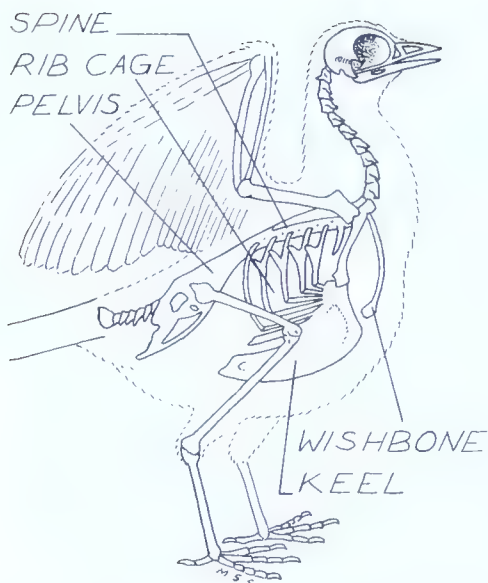
DRAWING OF A flight feather shows the interlocking parts that make the feather flexible and hold it together during flight.

comparison, our heart beats about 70 times per minute.

Because it is so important, the heart hasn't been subjected to weight-saving modifications. In fact, in birds the heart accounts for a relatively large percentage (from about eight to 22 percent) of the body weight as compared with man (about 0.5 percent).

Being equipped with a compact, lightweight body and a "high-performance engine" wouldn't mean too much if a bird didn't have feathers, wings, and a tail. These are the things that get the bird airborne.

Feathers are light, flexible, and strong—features that make them especially suited for flight. They have smooth surfaces and overlap each



BIRD'S PELVIS, spine and ribcage are fused together to make the firm framework needed for flight. Large flight muscles are anchored to keel.

other, forming a streamlined surface. The feathers on the wings and tail are specialized for flight.

The flight feathers attached to the bird's "hand" are the primaries. Most birds have 10 primaries, but the number can range from nine to 12 depending on the bird group. The flight feathers attached to the bird's "fore-arm" are called secondaries. They range in number from six to 32 (a mallard has 19, a bobwhite 10). The flight feathers of the tail are the rectrices; 12 is the average number.

In general, the primaries act as propellers, whereas the other feathers, plus the body and tail, provide the lifting surface. The tail also acts as a rudder and brake.

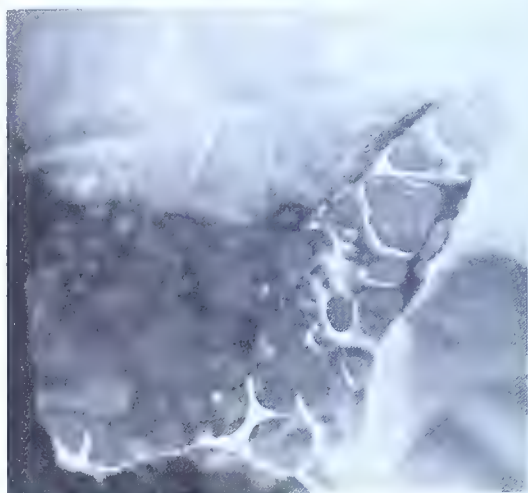
Some birds are mainly flappers. They fly by using a fast, complex screw-like action of the wings, with the outer parts acting as propellers. This power-flight requires a lot of energy. In hummingbirds the wing movement can reach 50 times a second.

Other birds are mainly soarers. Their flight takes little energy because they glide in rising air currents or

thermal bubbles. The thermal bubbles are large masses of buoyant, circulating warm air that rise from the warm earth—much like the bubbles that rise from the bottom of a pot of boiling water.

The shape of a bird's wings tells us about its general type of flight. Large, broad wings, like those of some hawks and buzzards, are designed for soaring. Long, narrow wings, like those of gulls, are good for riding air currents, but they are best for gliding. Pointed wings, like those of swallows and falcons, are particularly suited for speed. Short, rounded wings, like those of songbirds and the ruffed grouse, give maneuverability and quick power, but they require a lot of energy and are best for short distances. (The ruffed grouse is a strong flier, but it reportedly gets so tired after three or four successive flights, covering a total of about one-half mile, that it can't fly again until rested.) Wing slots, which are produced by the spacing of the feathers, and the alula, a small group of stiff feathers on the front of the wing, give a bird added control and help keep it airborne at low speeds.

The sight of a flock of birds stretching across the sky in a formation is



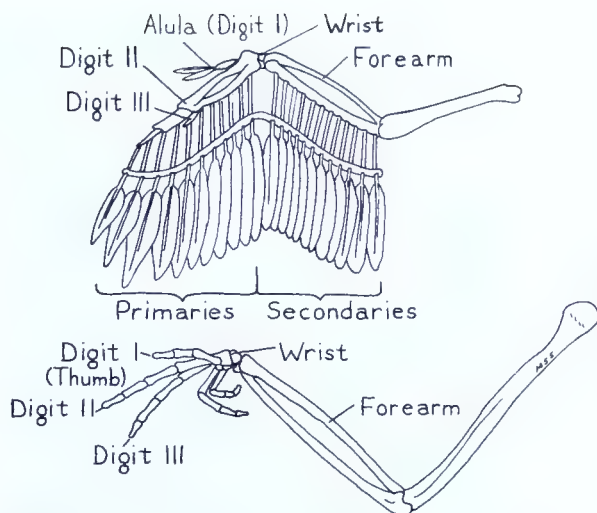
CLOSEUP OF PART of crow's skull shows bony braces that strengthen paper-thin skull. Hollow bones of some soaring birds are similarly braced.

Typical Flight Speeds of Some Common Birds (miles per hour)

Great blue heron	18-29
Canada goose	20-60
Mallard	26-60
Turkey vulture	15-34
Broad-winged hawk	20-40
Bobwhite	28-49
Ring-necked pheasant	27-38
Killdeer	25-55
Woodcock	5-13
Dove	26-41
Barn swallow	20-46
Crow	17-35

heartwarming. It is also very efficient. Scientists have calculated that a flock of 25 birds flying in a V formation could theoretically travel about 70 percent farther than a lone bird. The V formation evidently is the most efficient way to fly over long distances, even if the legs of the V are of different lengths. The scientists think that this formation is a natural and easily achieved way of flying, and that the bird in formation finds flying easier. Furthermore, their studies seem to indicate that the lead bird does not necessarily have to work the hardest, as is commonly believed.

Flight is one of the things that makes birds fascinating. Bird flight, in turn, makes our world a livelier place. Imagine the drabness of a



COMPARISON OF BONES OF bird's wing and man's arm show many similarities, although they perform different functions.

world without such sights as the slow balancing of the turkey vulture high above the fields, or the choppy flapping of the chimney swift darting across the evening sky, or the excitement caused by a flock of Canada geese honking overhead.

FOR FURTHER READING

The Flight of Birds, by John H. Storer. Cranbrook Institute of Science Bulletin No. 28, Bloomfield Hills, Mich., 1948.

The Life of Birds (Chapters 1 and 21), by Joel Carl Welty. Alfred A. Knopf, New York City, 1963.

"Formation Flight of Birds," by P. B. S. Lissaman and Carl A. Schollenberger, in *Science*, V. 168, No. 3934, May 22, 1970, pp. 1003-1005.

GAME NEWS Price Increased

An increase in the price of GAME NEWS was approved at the October meeting of the Pennsylvania Game Commission. Effective July 1, 1971, subscription prices for the magazine will be \$2 for one year, \$4 for two years and \$5 for three years. Single copy price will be 25 cents. Subscriptions at the current price of \$1.50 per year or \$4 for three years will be accepted, to a maximum of three years, through June 30, 1971.

Let's Look at Pennsylvania's Loons

By Donald S. Heintzelman



Common loon

THE FAMILY of loons, or *Gaviidae*, is a small group of four species of water birds represented in Pennsylvania by the common loon and the red-throated loon. Both species are fairly large, hauntingly wild birds which symbolize the spirit of the primitive wilderness better than any other animals. Indeed, the cry of one of these primitive birds ringing across a remote sub-arctic lake is a sound which can never be forgotten.

Loons are mainly fish-eating birds which occasionally eat other items such as crustacea, mollusks and insects. The common loon is the largest of the two Pennsylvania species, with a length between 28 and 36 inches—slightly smaller than a goose. Although

it has been recorded nesting at Long Pond, Pocono Lake and along the Susquehanna River near Marietta, it occurs here chiefly as a regular transient on our larger bodies of water, reports veteran ornithologist Dr. Earl L. Poole. The lower Delaware River, for example, is the main haunt of this species during winter.

The red-throated loon, on the other hand, is the smallest of the world's four species, with a length of 24 to 27 inches. According to Dr. Poole, this species is considerably rarer than the common loon and occurs in the state only as a rare and irregular transient on larger bodies of water. Sometimes the birds are stranded inland, and these birds may represent important first county records. A few years ago, for example, a Game Protector turned a red-throated loon over to me after it had been picked up alive and in exhausted condition on a street corner in Allentown. The bird was later turned over to the Muhlenberg College biology museum because it represented the first record for the species in Lehigh County.

The nests of loons are almost as interesting as the birds which make them. They are usually slight depressions in the ground or in large masses or heaps of vegetation placed a few feet from water. Two eggs are usually laid, although one and three occasionally have been noted. For the most part they are colored olive-brown with darker brown spots irregularly placed around the shell. Both parents incubate the eggs as well as care for the young.

This We'd Like to See

Adult dragonflies snare mosquitoes in flight by folding their six legs into a net and straining the insects from the air.

Can You Give Us a Conservation Project?

By Joseph B. C. White

CAN YOU GIVE US a conservation project? That is a question that more and more conservation agencies hear each day as the subject of deteriorating environment comes home to the average citizen. Garden clubs, sportsmen's groups, teen organizations and school classes are interested in what they can do to help solve some of the local aspects of this worldwide problem.

This type of interest can be the beginning of a fine series of group activities, and that is the best thing that can happen to an organization to provide direction and a spirit of working together. In addition, the only way we are going to lick the conservation problems facing America and the world is for the individual citizen to lend his talent and energy to the cause.

Let's list a few basic projects that your club or class can consider:

1) *Displays*—Here's a chance to tell your club's story to the town. Obtain the use of a store window on the main street. In that window show what your club does and why it does it. Hunter safety? Show a safe practice and add a sign card indicating that hunter safety courses are available at your club. Fly tyers? Display your handiwork and tell the public as simply as you can why you prefer fuss and feathers to worms. Garden club? Try displaying all the literature you can get on careers in conservation or the wise use of insecticides or the effect of pollution on streams, or how citizens can fight air pollution.

2) *Group activity*—A lot of people can think only of winter wildlife feeding or a stream improvement program. Both are great under the proper supervision, but there are dozens of other

excellent projects you can undertake as a group. If you have a wooded area near or on your school site, see if you can get it set aside as a nature sanctuary, either by owner's grant, purchase, lease or easement. Get the help of a biology instructor — a good one — and lay out a series of nature trails. Identify and label major trees, shrubs, ferns, etc., near the trails. Encourage the use of the trail by schools and Scout groups and other organizations. Or you can build houses for birds that are scarce in your area. You may be able to attract them in greater numbers. You can plant trees and grasses on abandoned land or strip mines. Arrange for your school to get a series of films on soil, water and wildlife or forest conservation. Start a school forest and encourage each year's class to care for their trees, even after graduation. Buy a set of good conservation reference books for the school or public library. You can do it for \$50.

3) *On Your Own?*—Why not adapt your photographic hobby to conservation? Provide interesting nature photos for the local newspaper; display photos of group projects at schools, clubs and churches; suggest conservation sermon themes to your minister or priest.

Start a campaign to clean up the local dump. Take before-and-after photos, show how good an area looks after your group has cleaned it. Urge a clean-up—paint-up campaign, enlist teen-agers. They work.

4. *Community project?*—Greenville, Pa., has been doing a great job encouraging and teaching the proper camping procedures in its annual family camping workshop. The demand is so great that other towns can

get into the act. Do you have a historical spot nearby that ties in with the Revolution or some little-known battle? Talk it up, hold a "buckskin" shooting match with muzzle-loading rifles; tie it in with local Chamber of Commerce interests. Famous house or building in town? Get a restoration project rolling. Tourists come for miles to see restored historical structures if they are done authentically.

5) *Education*—In the realm of education the potential is unlimited. School classes would welcome speakers on many phases of conservation. Invite classes to your sportsmen's club grounds, show children how to plant trees and wildlife food and cover shrubs. Prepare slide presentations on the typical conservation problems of your region for use in school. Support a program of bringing leading speakers to your high school assemblies. Many times this same speaker will present a second program to your club or to a community gathering. Be careful not to limit your interests to hunting and fishing—those are *benefits* of conservation.

6) *Organize a teacher workshop*—With the help of your Soil and Water Conservation District, plus state and federal agencies, you can work out a series of evening or weekend field trips that will help put conservation in the school. For help on such projects, talk to the school administrator and write to the Pennsylvania Department of Education in Harrisburg. In the workshop, urge the use of school grounds for outdoor teaching and projects for students.

These are just a few of many projects that can be carried out by groups of any age level.

The whole philosophy behind a

group effort is involvement. Once you have a project rolling, the interest grows and participation increases. This kind of participation can build a lasting interest in keeping a high quality environment for ourselves and generations to come.

INFORMATION SOURCES

Bale, Robert O., *Creative Nature Crafts*, Burgess Publishing Company, 426 South Sixth Street, Minneapolis, Minn. 55415, 1959, 120 pp., \$3.25.

Brehm, Shirley A., *A Teacher's Handbook for Study Outside the Classroom*, Charles E. Merrill Publishing Company, 1300 Alum Creek Drive, Columbus, Ohio 43216, 1969, 100 pp., \$1.75.

Cooper, Elizabeth H., *Science in Your Own Back Yard*, Harcourt, Brace and World, Inc., 757 Third Avenue, New York, N. Y. 10017, 1958, 192 pp., \$3.50.

Comstock, Anna Botsford, *Handbook of Nature Study*, Cornell University Press, 124 Robert's Place, Ithaca, N. Y. 14850, 1911-1960, 937 pp., \$10.

Emmuelson, Clifford E. and Virginia, *Conservation Quickies*, The Interstate Printers and Publishers, Inc., Jackson at Van Buren, Danville, Ill., 1966, 33 pp., 95c. Reorder No. 875.

Hillcourt, William, *Field Book of Nature Activities and Conservation*, G. P. Putnam's Sons, 390 Murray Hill Parkway, East Rutherford, N. J. 07073, 1950-1961, 432 pp., \$4.95.

Hug, John W., Wilson, Phyllis J., *Curriculum Enrichment Outdoors*, Harper & Row, Publishers, Scranton, Pa. 18512, 1965, 214 pp., \$3.80.

Milliken, Margaret, Hamer, Austin F., McDonald, Ernest C., *Field Study Manual for Outdoor Learning*, Burgess Publishing Company, 426 South Sixth Street, Minneapolis, Minn. 55415, 1968-1969, 122 pp., \$2.35.

Pettit, Ted S., *A Guide to Nature Projects*, W. W. Norton & Company, Inc., 55 Fifth Avenue, New York, N. Y. 10003, 1966, 316 pp., \$4.95.

Shuster, Carl N., Bedford, Fred L., *Field Work in Mathematics*, Yoder Instruments, East Palestine, Ohio, 1935, 168 pp., \$1.75.

van der Smitten, Betty, and Goering, Oswald H., *Nature-Oriented Activities*, Iowa State University Press, Ames, Iowa, 1965, 145 pp., \$3.50.

What With DDT, Not Long Enough

Young peregrine falcons mature in two years but it is not known how long the birds live in the wild.

The Woodland Drummer

By W. W. Britton

THE RUFFED GROUSE has lived and thrived for generations in Pennsylvania and other parts of North America, often under adverse conditions. His versatility in adjusting to change has been the chief factor in his survival. We know something about the cycle during which the population of his species builds, declines and builds again. The reason for this phenomenon has never been determined, nor has the cause for his "crazy" season. This usually comes in October in Pennsylvania, when there are numerous reports of grouse flying into wire fences, buildings and other objects with such force that they often are killed. Some wildlife biologists feel that the grouse's food at this season of the year has much to do with his odd actions. It is also in October that most of the young reach maturity. Their original numbers have been decreased approximately 50 percent. It is the time of year they start putting on their snowshoes—little comb-like appendages which grow on the sides of their toes to help support their weight on the snow.

Favorite Haunts

The grouse's favorite hiding places are deep thickets, dark forests, sheltered swamps and rugged mountain slopes. In the even tenor of the dim and silent woods he seeks shelter. His drumming is a common woodland sound. Standing on a log or tree stump, he fans the air with his wings with such rapidity that the sound resembles the starting of a single-cylinder motorcycle engine which abruptly runs out of gasoline. Drumming is done only by the male. It is part of his procedure to attract lonely males that desire companionship and it stakes his claim to



STANDING ON A LOG or tree stump, the grouse fans the air with his wings with such rapidity that the sound resembles an engine.

a territory. At other times he drums for exercise and is a way of expressing his vigor.

The ruffed grouse has been the state game bird of Pennsylvania since 1931.

When the Game Commission attempted to raise grouse in captivity 30-odd years ago, much was learned about them. To begin the experiment, it was necessary to obtain eggs. The only known source at that time was nests in the wild. Game Protectors and Refuge Keepers were told to try to locate grouse nests and take some eggs



THE COST OF RAISING ruffed grouse in captivity is prohibitive. Records show it costs \$75 to \$100 for each one raised to maturity.

from each nest. I was a Game Protector at that time and the owner of a fine English setter dog that was well trained on grouse. Deeming this a fitting opportunity to test the old theory that a female grouse leaves no scent at nesting time, I took my setter Dash on several excursions into my best grouse cover.

To my amazement, he did not locate a single grouse of either sex, while I discovered three separate nests. On one occasion, I located a female sitting on her eggs. Her nest was well concealed beneath heavy undergrowth beside an old log. Her coloring blended well with the dead leaves all about her. I called Dash to the spot, but he apparently was unable to scent her. At one time he was within five or six feet of her. Why she didn't leave her nest at his cavorting so close to her I will never know. Until someone can prove otherwise, I will believe that female grouse do not leave any scent at nesting time. Mother Nature endows her children with protective measures we humans cannot always understand.

Ninety-eight percent of the eggs gathered in the wild hatched out in the incubators. Those from pen-reared

birds, a year or so later, never exceeded 80 percent. After the young had reached maturity, our first real problem began. Up to now the mortality rate was practically nil, but for some reason an occasional adult would be found dead. These were of both sexes. We decided to separate the males and females. Placing them in separate enclosures, the killing stopped immediately. This was evidence that sex was the cause. It was now a matter of knowing how to mate them without losing the breeding stock. If a male was in the mating mood and none of the females were, they fought until one or the other was killed. The same thing was true if a female was in the mood and none of the males were. She would fight any and all males with the viciousness of a mother tiger.

Second Problem Solved

This second major problem also was finally solved. A mounted male grouse in strutting position was attached to a long board and placed in the female pen. If a female showed interest in him, she was taken out and placed in a pen by herself. Then a mounted female in squatting position was placed in with the males. If a male showed interest in her, he was taken out and placed with the female. This would not have been too bad if one mating would suffice for each clutch of eggs, but this was not so. One mating is ample for three eggs, or four at the most. So, the mating process had to be constantly repeated. It was a tedious task and time-consuming. So much so that records show it costs between \$75 and \$100 for each ruffed grouse raised to maturity in captivity.

The method used to determine the fertility of eggs was simple. They were dated with a lead pencil. Those that did not hatch in the incubators proved to be the fourth, fifth or the sixth eggs laid after mating. Whether this is true with grouse in their natural habitat has never been determined to my knowledge, but is presumed to be so. We know that with ring-necked pheasants,

one mating is sufficient for seven or eight eggs. Since their clutches of eggs average 10 to 14, at least two matings are required for all of the eggs to be fertile.

The young grouse became so tame one had to be careful not to tread upon them. They followed the hatcherymen everywhere they went. Food was no problem. They ate chick starter, all types of berries, greens and fruits except bananas. They preferred eating food held by mouse traps which were tacked to the sides of the pens rather than from containers on the floor. Lettuce was their favorite.

The Game Commission soon realized that the cost of raising ruffed grouse in captivity was prohibitive. They have since been more interested in creating better habitat for them, as well as for most other species of game birds and animals.

The ruffed grouse has rightly earned his title, "The Woodland Prince." The experienced grouse hunter knows of his many wiles and stratagems and marvels at his ability to quickly put a tree or other cover between himself and the hunter when he is flushed. A friend of mine from Washington, D. C., hunted five consecutive seasons before he finally killed one. Picking up his

prize he admiringly stroked its feathers and asked me to take him to the nearest taxidermist. It was a day he wanted to remember. This brought to mind the first grouse I killed. How proud a 15-year-old could be when his hunting companion, a veteran grouse hunter, reached out his hand to congratulate him on killing his first grouse! Especially when that companion was his father.

More than a half-century has gone by since that memorable day and through those years I have come to regard Old Ruff as a keen competitor. One who asks no quarter and gives none. When he outsmarts me, I merely chuckle and say to myself, "He's done it again." I'm often glad when he escapes, because I anticipate matching wits with him again next fall. As I unload my 16-gauge Parker and put it in its case and carefully lay it in the trunk of my car, I head for home with many pleasant memories of other grouse hunting experiences running through my mind. The zenith of my long grouse hunting career lies well in the past, but it is satisfying to know I played a small role for the Pennsylvania Game Commission when they attempted to learn more about the self-sustaining "woodland drummer."

GAME NEWS

Enclosed find check or money order for \$_____ for my subscription to the Pennsylvania GAME NEWS.

☐ NEW

☐ RENEWAL

(Check One)

☐ 3 Years \$4

☐ 1 Year \$1.50

Name _____
(print plainly)

Address _____

City _____ State _____
(Zip Code)

NOTE: All remittances should be made payable to the
PENNSYLVANIA GAME COMMISSION
Post Office Box 1567, Harrisburg, Pa. 17120



CARL PURASH, right, with his 8-point trophy to his left. Buck was taken in 163 lbs.

BLAIR YOUNG, of Howard, shows his 12-point to Deputy Jim Keller. Right above, Joe Renwick, St. Marys, with his 9-point. Below left, Walt West, Green Lane, and his 9-point.

Some Penn



LEE DHANENES, below, of Linesville, with his fine 11-point buck taken in Crawford County.



EARL SNAVELY, above, of Manheim, displays his 12-point whitetail bagged in Tioga County. Below, Alvin Lightcap, Spring City, and his 208-lb. 9-point downed in Berks County.





Bob Nagy, above, shows his big
buck on Joseph Makara.
Nagy, field-dressed at



Mid Bucks

GEORGE CASS, above left, Fair Lawn, N. J., took his 8-point
buck in Wyoming County. Right, Alan Miller, 12, Aliquippa,
and his fine 12-point. Below right, Bob Shriner, Thurmont,
Md., and his 10-point Adams County buck.



BOB NAGY, above, Windber, and
his Westmoreland County 8-point.
Below, Warner Sowers, Pennsburg,
right, shows his Columbia County
buck to Clarence Williamson.

MAT KUNCHIK, Peckville, below, and
his 10-point Lackawanna County trophy.
Antlers had an 18-inch spread.



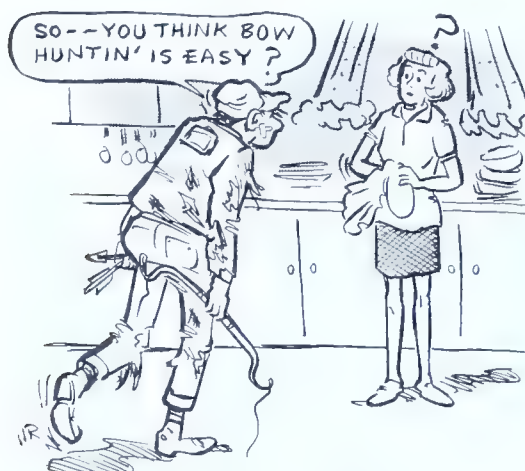


FIELD NOTES



Only 160 Hours, Jim?

WASHINGTON COUNTY—I don't know any poems that may be of interest, nor have I seen any frogs jump across the road this month. December has been a routine 160-hour work month.—District Game Protector J. M. Kasakavage, Washington.



Shoulda Gone Fishin'

ERIE COUNTY—I have listened to a lot of "believe it or not" stories" and this one comes directly from Waterways Patrolman James Carter. During the past archery season, Jim located a deer trail coming through a dense thorn thicket. Beyond the thicket he saw several deer feeding in a clover field. Jim knelt in front of the passageway the deer had through the thicket and nocked an arrow. Hunters on the other side of the field alarmed the deer and two small ones headed Jim's way. One darted through the hole in the thicket and ran into Jim's arrow, still on the bowstring, and then knocked Jim over. He managed to recover his position just in time to be run over by the second deer.—District Game Protector E. D. Simpson, Union City.

Some Are Concerned

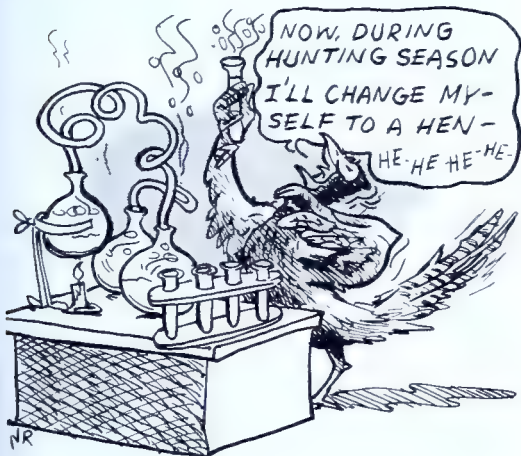
CAMERON COUNTY — All law-enforcement officials are discouraged by the way most witnesses to violations respond. The usual reactions are, "I don't want to be a squealer," "I don't want to get involved," or "I'll wait until I see an officer." Waiting to report almost always results in no arrest, as the details are forgotten and the violator has left the area. On the Wednesday following the past deer season I was surprised to receive a phone call from Philadelphia. This sportsman was one in 10,000. He stated, "I want to report a violation I witnessed in Cameron County on December 15 in Sinnemahoning State Park. I saw a hunter stop his car, get out and shoot from the highway, shoot across the highway, shoot and kill a deer in posted area in the park. I not only saw the violations take place but took pictures of the violator in action. I will be willing to take off work several days to bring the evidence back to Cameron County and willing to testify in court." This is the type of sportsman that we need more of.—District Game Protector N. L. Erickson, Emporium.

Winter Wanderer

VENANGO COUNTY — George Scanlon of Franklin showed me a black snake about five feet in length that he discovered on his property. It apparently had been killed by a great horned owl, as it had talon marks about its middle. This wasn't unusual in itself except that this occurred in December when black snakes are normally in hibernation. — District Game Protector L. C. Yahner, Franklin.

Learning

CAMBRIA COUNTY—It was gratifying this past deer season to see the large number of deer hunters wearing fluorescent orange. Most hunters now realize it is better to be conspicuous than be mistaken for a deer.—District Game Protector D. W. Jenkins, Ebensburg.



Pheasants Do All Sorts of Things

ROSS LEFFLER SCHOOL OF CONSERVATION—On December 30, 1970, I was at DGP Perry Hilbert's headquarters when a lady called and said she had found a pheasant by her home with a band on its leg and wondered if we wanted it. We picked up the pheasant, a cockbird. Mr. Hilbert called wildlife biologist Fred Hartman and reported the band number. Mr. Hartman reported the pheasant had been released in the spring of 1963, 15 miles from the place we picked it up. Later Mr. Hilbert took the pheasant to Mr. Hartman's headquarters, and when Mr. Hartman saw the pheasant he asked if this was the one we'd mentioned, because when released it was recorded as a hen! Upon investigation the pheasant was found to have female reproductive organs. Mr. Hartman is sending the pheasant to Penn State for complete examination. It's a feat for any pheasant to live in the wild for seven years, but even more difficult to change its colors.—Trainee James R. Beard.

Good Progress

COLUMBIA COUNTY — For the first time in my career as a Game Protector I have the distinct pleasure to report that in the 1969-70 hunting season not one hunting accident occurred in that part of Columbia County which I service. Having heavy hunting pressure from the first day of September to the end of the antlerless deer season, I have only praise for those sportsmen who hunted this area and were so safety conscious.—District Game Protector E. F. Sherlinski, Mifflinville.

Some Future

FOREST AND WARREN COUNTIES—Some say man—in fact, all life—came from the sea. He got feet and legs because he wanted to walk. Now if this is so, maybe we'll return to the sea some day, as we seem to be forgetting how to walk. There are always more roads for the hunter and you're just not with it now if you don't have a trail bike for the summer and at least one snowmobile for winter. If you don't believe me, check around Marienville. I believe we have almost one snowmobile per family and some have two or three. Come to think of it, from the looks of some of the duck-footed tracks in the snow, maybe some of us are already getting flippers.—District Game Protector D. W. Gross, Marienville.

They Know

CRAWFORD COUNTY—In the extended hunting season, it appears that the majority of the hunters in my district, which adjoins Ohio, are archers from that state. I find that the non-resident hunter enjoys hunting here in Pennsylvania and readily admits that we have hunting second to none.—District Game Protector L. V. Haines, Linesville.



Credit for an Assist

CENTRE COUNTY—Deputy Law-son Henry told me that during the past deer season someone wounded a buck outside the wire of the Rockview Institution. The deer then ran onto the Institution grounds and the hunter went to the main gate to get permission to go in after the deer. Meanwhile, the inmate that takes care of the reservoir was walking the stream that feeds the reservoir and came upon the wounded deer. Having no way to kill the deer, the inmate threw a rope around the animal's neck, tied it to a tree and went for help. By this time the hunter had obtained permission and was tracking the deer. I wish I could have seen his face when he finally shot the deer and approached it to find the buck tied to a tree.—District Game Protector D. Sloan, Bellefonte.

First Example of a New Problem?

FOREST COUNTY — During the past month Deputy Skibinski picked up a small deer that was struck by a snowmobile on one of our forest service roads. This road is closed to automobiles but open for snowmobiling.—District Game Protector G. W. Miller, Marienville.

Retrieving? Nothin' to It!

YORK COUNTY—Near the end of November, Thomas F. Clough, of York, was hunting with three companions along the Conewago Creek. A ringneck flushed in front of one companion, Steve Ferree, also from York. Steve dropped the bird but it fell in the middle of the creek. The creek is too deep to wade, splashing stones did not affect it, and it could not be reached with branches. The problem was finally solved with a big splash as Steve dove in after the bird. "I never saw a Lab do nicer work," Tom said.—District Game Protector G. J. Martin, York.

But What's a Muskie?

WESTMORELAND COUNTY—There were no Triple Trophy Awards during the 1970 license year due to the closed bear season. But Ed Schaefer, of Hunker, feels he got three trophies regardless, and I agree. During the small game season he killed a turkey in Armstrong County and, on November 30, a buck in Forest County. He then went fishing in the Allegheny River and caught a 40-inch, 20-lb. muskie. No certificate, but certainly lasting memories.—District Game Protector J. M. Maholtz, Mt. Pleasant.

A Good Practice

BUTLER COUNTY—Christmas is not only the time for giving and receiving for humans, but again this year the Boy Scouts of this area picked up all the Christmas trees they could find and took them out into the woods to build wildlife new homes and escape cover by making thick piles out of the used trees. This is a fine example of the conservation uses the Boy Scouts of America teach and practice.—District Game Protector J. D. Swigart, Butler.



Find 'Em All Over

WARREN COUNTY — While conducting an investigation where a house had been struck by a bullet from a deer hunter's rifle, I noted where the bullet had come through the outside wall of the kitchen area, then passed through an inside partition, crossed a living area, and then buried itself in the studding. This bullet had been fired at a deer prior to striking the house. You can imagine my surprise when, looking at the painting, which was an outdoor scene, I noticed that the errant bullet came within about $\frac{1}{4}$ inch of striking a buck deer with a large rack of antlers that was depicted on the painting.—District Game Protector D. R. Titus, Warren.

Cooperation Pays

VENANGO COUNTY — I met a hunter who had difficulty in dragging his deer out of the woods, so he sought assistance from another hunter. The second hunter gladly helped. He too had a kill and needed help. As they were dragging the second deer out of the woods, a third hunter entered the picture to help, for nearby he had made a kill and needed help. Apparently a pleasant friendship was built up. Since then there was an exchange of holiday greetings. One of the three is a nonresident.—CIA—R. D. Parlanman, Franklin.

Big Buck

NORTHUMBERLAND COUNTY—The largest deer rack I have seen in Northumberland County was found this past season by Ronald Shovlin of Shamokin. Mr. Shovlin came upon the skeleton of the deer within two miles of the city limits of Shamokin in Coal Township. The rack carried 11 points and scores of 162 $\frac{6}{8}$ points under the Boone and Crockett system. The deer was $4\frac{1}{2}$ years of age. Due to the fact that only the skeleton remained, we cannot determine the cause of death.—District Game Protector C. E. Laubach, Elysburg.



Can't Please 'Em All

ROSS LEFFLER SCHOOL OF CONSERVATION — While on patrol the final day of the antlerless deer season this year, we checked a party of eight hunters. We were immediately confronted with the question of why there was a doe season. The men in the party told us there weren't any deer left to hunt anymore. We explained the basis for the doe season but to no avail. The thing that made their questions a little unusual was the fact that they already had bagged five does that morning. This was pretty good considering that they were convinced the deer were all gone from the woods of Pennsylvania.—Trainee Howard L. Harshaw.

Moments to Remember

ROSS LEFFLER SCHOOL OF CONSERVATION — There are some quite satisfying moments that a Game Protector experiences during the performance of his duties. They include sharing the enjoyment of a young hunter who has bagged his first buck and the reminiscences of a 72-year-old sportsman about the "really big" one that got away. One of the most satisfying is the obviously safety conscious youngster who calls you by name and asks if you remember him from a Hunter Safety class, while he points out his adherence to all safety practices. You may not remember him personally but you do remember the feeling that comes with a sense of accomplishment.—Trainee John Heider.



Tough Critters

CHESTER COUNTY—One of our Farm Game Cooperators was hunting with his dad and a friend. The father shot a ringneck and put it in the back of his hunting jacket. After a few minutes he heard a scuffling noise and felt a movement in the back of his jacket. He put his hand back just in time to feel the rooster coming out. It took to the air and this time the cooperator shot and killed the bird. — District Game Protector P. J. Filkosky, Parkesburg.

Thwarted

LYCOMING COUNTY—During the antlered deer season, District Game Protector Dick Donahoe and I stopped by the Churchill Camp where Gordon Black, a conservation officer from Ontario, Canada, was hunting. No deer were hanging on the pole outside but a buck which Gordon had shot a couple of days earlier was on a closed-in porch. We understood why when they told us about going outside the night before and seeing a black bear vigorously tugging at the deer, trying to pull it from the pole. After scaring the bear away, they took the buck inside. In a short time the bear was back. Several times it climbed the tree where the deer pole was fastened and only after a thorough investigation of the area did it decide to leave and look for supper elsewhere.—Land Manager D. E. Watson, Williamsport.

More Whitetail Mysteries

BEDFORD COUNTY — While on night patrol I received a radio message that a road-killed deer was lying in the parking lot of a service station. When I got to the service station sometime later, there was the deer, a big doe. I loaded it on my car and went home. The next morning the owner of the service station was at my residence to tell me there was a road-killed deer, field-dressed, beside the phone booth in the parking lot of his station. By the time he returned to his station, the deer was gone. The deer I received the radio message on had been the deer beside the phone booth. Where the deer I picked up came from, no one knows; and likewise, where the field-dressed deer went to, no one knows.—District Game Protector G. B. Thomas, Woodbury.



CONSERVATION NEWS



1970 Deer Harvest Up to Expectations

By Ted Godshall
Associate Editor, GAME NEWS

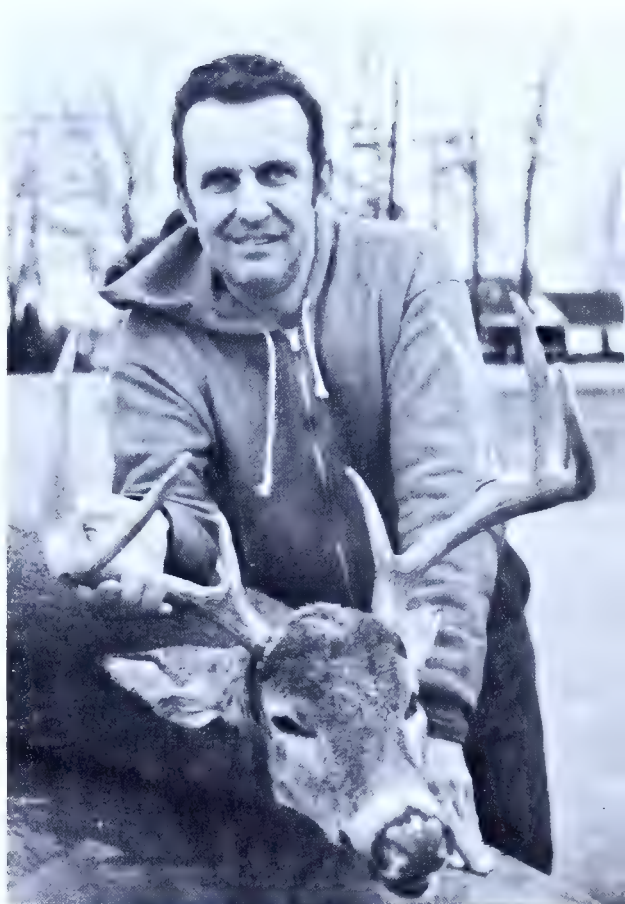
THE 1970 DEER harvest came off just about as expected. As this issue of GAME NEWS goes to the printer in mid-January, some 95,000 deer kill report cards have been returned to the Game Commission and they are still coming in. Fears that the deer herd has been endangered are not justified, and no drastic changes are planned in the present deer management program.

In order to give today's hunters an overall view of the deer situation in Pennsylvania, the following summary is presented here.

In the 1940s hunters were taking antlered deer at the rate of about 31,000 per year. This figure rose to about 38,000 a year in the 1950s, and in the first half of the 1960s the average number of antlered deer harvested annually was about 43,000. Preliminary reports indicate that the 1970 buck season was better than average, and that the harvest will be higher than some might expect.

In recent years the Game Commission said on a number of occasions that there were too many deer statewide, and that the whitetail population would have to be reduced if the herd was to remain healthy. Back in 1957 the Game Commission established a policy whereby the desired size of Pennsylvania's deer herd would produce an annual statewide antlered deer harvest of some 35,000 to 40,000 animals.

Early in the 1960s the whitetail population began to swell, and by the



PGC Photo by Bob Parlamen

BOB BOGDON, of New Castle, took this fine 8-point buck during the 1970 season. The antlers had a spread of 19½ inches.

middle of the decade the herd size was uncomfortably large. A succession of unusually mild winters and occasional smaller-than-desired harvests produced more whitetails than could be comfortably supported by an over-browsed range. In addition, the num-



GEORGE SCHIBNER, of Coraopolis, dropped this large western Pennsylvania buck in 1970. The rack had a spread of $25\frac{1}{4}$ inches, unofficially scored $158\text{-}5\frac{5}{8}$ points by Boone and Crockett method.

ber of deer lost through highway accidents, crop damage, etc., was much too high. Deer turned up in urban areas, housing developments and shopping center parking lots, where they were at least a nuisance and often a menace.

The quality of the herd also suffered. Undersize buck racks, smaller deer and lower reproductive rates appeared. Although some hunters showed no concern, the deterioration of the herd and the condition of the habitat were of significant importance to the Game Commission.

Right on Schedule

A determined effort to cut back on the herd size was undertaken several years ago, and it now appears that the Game Commission's plan is right on schedule.

At the time the cutback was undertaken, the Game Commission said that the harvests would be somewhat larger than the size of the annual fawn crop, and that there would be a gradual reduction in herd size. This has occurred.

A gradual reduction in the size of the herd seemed far preferable to the

events of the late 1930s and early 1940s, when a similar situation existed. In 1938, hunters took over 171,000 Pennsylvania deer, and in 1940 the harvest was 186,575. For the next seven years following 1940, the total annual harvest never reached the 39,000 mark.

During the late 1960s the Game Commission warned that even a moderately severe winter would result in higher losses of whitetails than sportsmen would care to see if the deer population wasn't reduced, but apparently this was ignored. Last winter, 1969-70, the snow and cold finally came, and with them the predicted winter losses. Had the high harvests not taken place in the several preceding years, last winter's losses undoubtedly would have been much greater.

Hunters should have learned a lesson last winter, but some apparently did not, because all during the past summer and fall there were continual complaints about a lack of deer.

All Game Commission data indicate there is no shortage of whitetails in the state. There are fewer deer in some areas than there were several years ago, but this is quite desirable. In

other areas, there are more whitetails than in the past, and in a few instances this is undesirable.

Under existing state law, the Game Commission's deer management program is as flexible and as sensitive to change as is possible. The Commission would be the first to admit the system has its shortcomings. However, until laws are changed and the county system is replaced by management units of similar habitat, the present program is the best possible.

The Game Commission's chief tool in controlling the size of the deer herd is the county allocation of antlerless deer licenses. By annually adjusting the number of antlerless licenses and varying the length of the antlerless season, the Commission can regulate the size of the herd in any county.

Each county's deer herd can be permitted to expand rapidly or be cut back drastically in just a few years. But the Commission can control the herd only on a county basis; it can't remove a predetermined number of whitetails from a particular township or woodlot. Therefore, overharvest and underharvest do occur in given localities. However, overall objectives are attained.

30 Percent Per Year

Normally, a deer herd expands in size by about 30 percent per year through reproduction. If losses are smaller than that figure, the size of the herd will increase. The annual antlered deer harvest accounts for only some 15 or 20 percent of the herd, and if the total population is to remain at a constant level, it is necessary to remove an additional 10 or 15 percent through antlerless harvests. Elimina-

tion of the antlerless season would produce an explosion of whitetails that would soon get out of hand.

Pennsylvania, a highly-populated, heavily-industrialized area much smaller than many other states in the nation, has had the second largest deer harvest in the country for a number of years. How would this be possible if the deer management program here were "all wrong" as some claim? Obviously, the large, sustained buck harvests for the past 13 years indicate somebody must be doing the right thing.

Most Land Privately Owned

Most of Pennsylvania is privately owned. What right do either the Game Commission or hunters have to force unconscionable depredations on private citizens, many of whom may not hunt or care about the sport?

Hunters can rest assured that the deer herd is not in danger. However, continued control over the size of the herd through antlerless seasons is still in order.

And antlerless seasons aren't "money-making schemes" as some charge. The money to be derived never has been a consideration in the establishment of an antlerless season or in the number of licenses allocated. The Game Commission receives \$1 for each antlerless license sold, and by law this must be spent solely for cutting or otherwise removing overshadowing tree growth, to produce underbrush sprouts and saplings for deer food and cover on game land. By holding antlerless seasons, the Game Commission doesn't gain one penny for use in projects other than habitat improvement.

But What's He Lookin' For?

Leach's petrel, a bird the size of a robin but with legs so weak that they cannot support the body, can dig a tunnel six feet long in three nights.

Grow Right Out of Them

Rattlesnakes shed their skins about three times a year, acquiring a new rattle each time.



E. J. BROOKS, LANSDALE BUSINESS executive, was named president of the Pennsylvania Game Commission at its annual meeting in January. Andrew C. Long, Shamokin, was elected vice-president, and H. L. Buchanan, Franklin, was elected secretary. Other members now serving are Robert Fasnacht, Ephrata, Frederick Simpson, Huntingdon, James Thompson, Pittsburgh, Loring Cramer, East Stroudsburg, and Marshall Jetty, Brockway.

Editorial . . .

(Continued from Page 1)

ideals is easy; it's the unfortunate necessity for working out the details that complicates everyone's life.

But working out the details of deer management is what Game Commission personnel must do. When the dilettantes have lost interest and the part-time outdoor columnists have found a new subject to belabor and most of December's deer hunters have become April's trout fishermen, biologists Steve Liscinsky, Stan Forbes, Lincoln Lang and Bill Drake are spending every working hour studying deer, the same creature which one way or another absorbs much of the time of the entire Research Division and everyone else employed by the Game Commission, the personnel of Penn State's Cooperative Wildlife Research Unit, and others.

It's logical to assume that when a group such as this lays out a program based on facts rather than wishful thinking, a program that takes into

consideration all known factors and orients them into long-range goals that give proper weight to everything pertinent—the deer herd itself, as well as all interested humans—and this program has proved successful in the past, it's to everyone's advantage to study it carefully before demanding changes for personal reasons, changes invariably recommended on the basis of limited data. It's understandable that the individual sees everything in relation to himself, but it's the duty of a responsible agency to conduct its affairs to best serve all interested persons in the state. And that's what the Game Commission is trying to do for Pennsylvania sportsmen. As an old deer hunter, I can vouch for it—*Bob Bell*

Give

GAME NEWS

To a Friend . . .



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



YOUNGSTERS RECEIVE INSTRUCTION in the safe handling of bows and arrows from Mrs. Harold Rothenberger, an experienced archer.

Post Office Box 3003

By Lowell E. Bittner
CIA, Southeast Division

TO OBTAIN information on available Hunter Safety Training in Berks County, it takes only a postcard to the above address in Reading.

When Hunter Safety Training became a requirement of the law, the Game Protectors in Berks County sought a practical method of coordinating efforts of the volunteer instructors on a county-wide basis.

Game Protectors Joe Leiendecker and Jack Weaver agreed on a plan whereby several dates and locations

would be made available at specific times of the year for the necessary course. The officers asked the many sportsmen's organizations to help in the program and the response was very gratifying. Several clubs that were unable to provide facilities had Hunter Safety instructors in their groups who helped at the various courses. In other clubs, some members even took the instructor's course to help provide needed manpower.

After the preliminary arrangements



HAROLD ROTHENBERGER lectures attentive group on archery equipment before they try their skill on the range. Pike Township Sportsmen's Association provided the meeting room.



UNDER WATCHFUL GAZE OF Rufus Moyer and DGP Joseph Leiendecker, young shotgunner tries his hand at clay-bird targets. Such training is of great help for beginning hunters.

were completed, Leiendecker rented Post Office Box 3003. All available publicity sources were used to make known the fact that information was available by writing to that address. Persons requesting training were directed to the nearest available course. In order to have sufficient material, etc., available, the clubs asked for registration prior to the course.

In general, students are not accepted if under 11 years of age. Parents are encouraged to participate and many expressed their appreciation for the fine job. As set up, the course runs for approximately six hours, more if shooting facilities are available.

Instructors show effects of shooting into soap, cabbage, waterfilled cans,

etc. Where possible, the students fire familiarization courses in rifle, shotgun and archery. They are charged a small fee to cover cost of ammunition and other material used. This is the only fee involved.

Courses are announced by newspapers, school bulletin boards, service club publications and other means. Anyone wanting hunter safety training in Berks County can hardly say he doesn't know where the course is available. Several police departments, women's clubs, department stores and others not directly associated with hunting have sponsored courses and assisted in other ways. Berks residents are certainly fortunate in having this cooperative program available.

BRETT ANTOINE, 3½, son of Mr. and Mrs. Lamont Antoine, Tunkhannock, happily helps his father display a woodchuck bagged last summer. By taking the boy along as an observer while he's growing up, Lamont feels he will learn safe hunting procedures automatically, thus be a safer hunter when his turn afield comes.



Chain Saw Safety

By Jim Hayes

PPOTENT, explosive forces frequently come in small packages. The massasauga or pygmy rattler is the smallest member of the rattlesnake family. Yet its venom is, drop for drop, second most toxic of any of the North American pit vipers. The hummingbird, smallest of birds, becomes fierce as a hawk when defending its nest.

So it is with the new lightweight chain saws now on the market. These mini-saws are unexcelled for cutting firewood, browse cutting, clearing land around hunting camps, and other outdoor uses. Unlike the heavy-duty chain saws which sometimes weigh 35 pounds, the lightweights go some nine to 15 pounds. But their smaller size is deceptive. Big, heavy chain saws look as dangerous as they are, and people handle them accordingly, but it's easy to be misled by the small ones.

EVERY SAW HAS its limit. Don't tackle bigger cutting jobs than yours was designed to handle.

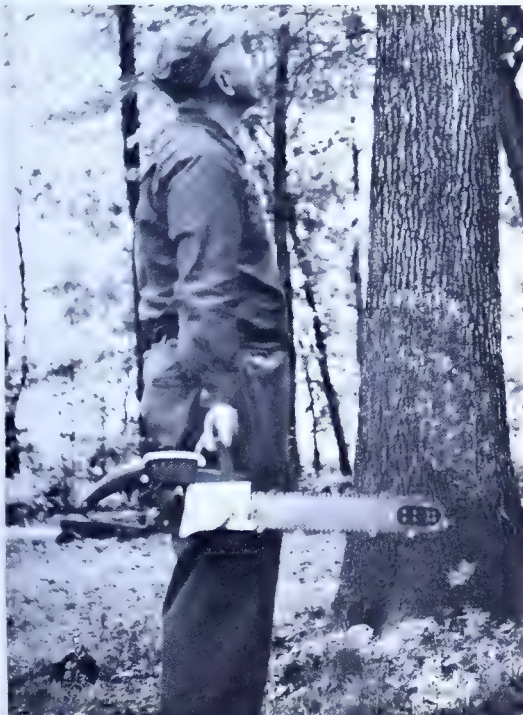


DON'T MAKE HIGH cuts like this. Cut off at bottom and saw felled limb to proper length.

With a lightweight chain saw you find yourself tackling cutting jobs you'd never attempt with a heavy-duty saw, simply because the big saws are heavy and clumsy. In pruning, for example, it's frequently less exerting to use a hand axe than a big power saw, but such tasks are a natural for the minis.

You can easily make overhead cuts with a lightweight saw. You can operate them from an awkward position. You can be less concerned with stance and position. They're so light and portable it's tempting to carry them from place to place without stopping to cut off the engine.

The problem is, if you do any of these things, you may lose something. Like an arm, a leg, a foot, or your life.





ANOTHER BAD example. Keep both feet on the ground while operating chain saw, and don't smoke.

No man in his right mind allows himself to become careless with a 22 rifle because it's a lighter caliber than a 30-06. The same principle applies to chain saws. The safety precautions that are observed when using a heavy-duty saw should also be followed with a lightweight, plus a mite extra, just to be sure.

Because they cost less and are so much easier to handle than heavier models, mini-chain saws are being acquired by many people who have never owned or operated a chain saw. Owner's manuals invariably contain safety precautions. Unfortunately, some people don't bother to read the instructions, and many more fail to take them as seriously as they should.

It takes a few minutes to read these safety tips and memorize them. And it takes much less time, a fraction of a second, for the buzzing cutting edges of a chain saw to inflict incredible injury.

The first step to safe operation, then, is to read and take-to-heart the safety instructions that come with the saw. The second is to treat your mini-chain with respect, never forgetting for an instant that these lightweights, despite their size, are not toys. Their bite is many times more fierce than their growl.

Stick With Smaller Stuff

Lightweight chain saws are designed for trimming, cutting firewood, and felling small or medium size trees. You can fell a tree up to about 24 inches by cutting a big notch and three felling cuts, but this begins to stretch the saw's limitations. It's better to stick with smaller stuff.

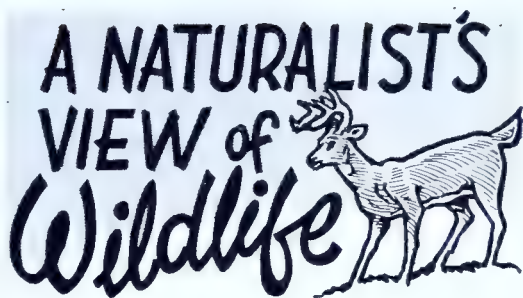
In the final analysis, chain saws, like rifles, axes and other useful instruments, are as safe as the people who use them. Some of the basic mistakes are illustrated in the accompanying photos.

GOOD WAY TO LOSE a leg! Never operate saw from an awkward position like this, and stay off unsafe perches.



THE RACCOON is one of Pennsylvania's most common furbearing animals. The raccoon population, like those of other wild creatures, has fluctuated wildly. Raccoons today have to be near an all-time population high and it seems ridiculous to think that part of this is due to the Neilson ratings. Actually, four factors contribute to the increase—low fur prices, high wages, television, and the raccoon's adaptability.

In the 1920s raccoon fur was in great demand. No self-respecting college boy could afford not to have a



Raccoons are curious creatures, and curiosity is a sign of intelligence. Highly adaptable, they can live almost anywhere, under almost any circum-

The Raccoon—*Procyon lotor*

By Leonard Lee Rue, III

raccoon coat. It was the status symbol of the decade. The demand pushed the price of a raccoon pelt as high as \$15. During the 1930s the price dropped to \$6 to \$10 for a large prime pelt. But the depression was on and a man was lucky to be able to make a dollar a day, if he could find work. During the '20s and '30s everyone who lived in a rural area hunted or trapped every raccoon possible and the populations plummeted. In many areas, raccoons were completely wiped out.

Today raccoon pelts have lost favor with the fashion style setters. Long-haired furs make a person look larger and heavier, and no one wants to look that way in this day and age. The large raccoon pelts which are bought are sheared to imitate the short-haired furs. With the demand for pelts low, the price of the fur is low. Since World War II, employment has been good with wages increasing fantastically, so it no longer pays to hunt or trap raccoons. To many dyed-in-the-wool coon hunters, though, the sound of a bugle-voiced hound on a frosty night is what they live for. Such men hunt raccoons for the sport, regardless of the price of fur. The rest of the hunters sit home and watch television.

stances, and not only survive but actually thrive. As the raccoon population increases, many move into urban areas where they find homes in the most unlikely places, such as storm sewers and drainpipes.

Raccoons favor wooded areas that have plenty of available water. The raccoon needs water for drinking, it hunts for a lot of its food in water, it likes to play in water. But contrary to popular belief, a raccoon does not have to have water to wash its food.

Raccoons are classed as carnivores but like their big cousin the bear, they are omnivorous; meaning that they will eat whatever is edible that they can catch or find—frogs, fish, eggs, insects, fruit, nuts, corn, etc. The raccoon's almost insatiable appetite often leads to conflict with man. Its habit of raiding and upsetting garbage cans is a nuisance. Its forays against poultry, beehives, gardens, orchards or sweet corn fields are much more serious offenses and call down the wrath of man.

Under ideal circumstances, a raccoon will choose a hollow in a large tree as a den or nesting site. Lacking this, it will utilize an old woodchuck burrow, a cave, an abandoned mine



shaft, a rock crevice, an abandoned or even occupied barn or house.

Raccoons are almost strictly nocturnal, so they may live as close neighbors to man for some time without their presence being detected. Often it is their tracks that reveal their activities. The raccoon has five toes on each foot, those on the forefeet being longer and more facile. However, it is the back foot which leaves a track that looks almost like the footprint of a human baby, and this is the raccoon's trademark. The raccoon's "churring" sound normally identifies the animal. However it also growls, barks, hisses, cries and has a tremolo sound that resembles the call of a screech owl.

Usual Litter Four

Most baby raccoons are born in March or April after a gestation period of about 64 days. The usual litter is four. Babies weigh about three ounces and are covered with fur at birth. Their eyes remain sealed for 19 days. A baby raccoon can climb before it can walk, or at least it can cling to a tree's rough bark with its legs outstretched like a giant spider.

By the age of four weeks the young raccoon begins to venture out of the den. Like most climbing animals it can climb up much easier than it can climb down. When it has reached the top of a tree and is afraid to come down, it squalls for Mom to come to the rescue. By eight weeks weaning is taking place and the young are starting to follow after the mother in search of food. By 12 to 16 weeks of age the young are large enough to be on their own. While many family groups remain intact and the young may even spend the winter with the mother, others now split apart.

The female raccoon is a devoted mother who will fight bravely to protect her family. Even so an occasional youngster is lost to a great horned owl, bobcat or dog. Dogs are the raccoon's greatest enemies, but usually only the larger ones can kill a full-

grown raccoon. A raccoon will fight a dog in the same manner that a cat does. It lies on its back and grasps the dog's throat with its front teeth, biting with its teeth and trying to rake the dog's stomach with its hind claws. Although raccoons are courageous they are not foolhardy, and they will escape rather than fight whenever possible. They do this by climbing trees, seeking sanctuary in holes in the ground or rocky crevasses or by swimming. A dog that is foolish enough to approach a swimming raccoon frequently has no time to become smarter. The raccoon will grab the dog and, by scrambling up on its head, drown it.

Holding a dead raccoon up by the tail or hind foot is a mighty poor way to guess the weight of the animal. The foot is tapered and it requires a real effort to lift a large raccoon in this manner. And of course the farther you have to carry it, the more rapidly it gains weight. Most full-grown raccoons weigh between 12 and 18 pounds and measure 24 to 36 inches in length. Males average larger than females. A very large raccoon may weigh 20 to 24 pounds. Weights above this are exceptional. The largest raccoon I know of was taken by Albert Larson of Nelson, Wis. Its certified weight was 62 pounds 6 ounces and it measured 55 inches overall.

Not True Hibernators

Although raccoons den up and become lethargic during the coldest months of the winter, they do not truly hibernate. When the temperature drops below about 26 degrees, raccoons become inactive. They may bestir themselves if there is a break in the winter's temperature and a thaw sets in, unless there is snow on the ground. If the snow is soft and deep, even though the temperature rises, the raccoon, because of its short legs, will remain in its den.

The raccoon can furnish untold thousands of hours of sport. More hunters should be meeting their challenge.



Clean Gear Lasts Longer

By Les Rountree

THE EASIEST thing to do when we return from a camping trip is to unload the car, throw everything in the corner of the garage and forget about it until the next time out. That's the easiest thing to do all right, but it sure makes getting ready the next time a nasty experience. Camping gear is going to get dirty, greasy and generally fouled up and the very best time to clean it up is the minute you get back to headquarters or, at the latest, the next day.

For tents and the fabric parts of pop-up trailers, a good going over with warm water and a mild detergent is usually called for. If you have been camping during soggy weather the tent will be muddy unless you camped on concrete. I'm not sure how the top part of a pop-up job gets muddy but it does. The easiest way to wash it is to set up the unit and start in with a soft-bristle scrub brush. Rinse it off with clear water via the bucket brigade style or use a garden hose. Make sure everything is completely dry before refolding and storing away. A folded up tent that's wet takes a long time to dry. Mildew and, eventually, rot will seek out the damp folds and that's all

THE TIME TO CLEAN UP tents and other canvas gear is immediately after getting home. Warm water and a mild detergent are usually called for, along with a soft-bristle brush.

she wrote. In the case of the wheeled unit, wash off the undercarriage, grease all fittings and spray a light film of rust preventative oil on the exposed metal parts. Check the air pressure in the tires and inflate if necessary. If the trailer is going to be parked for a long period it's a good idea to jack the chassis up on blocks so that the tires don't rest on the ground.

Check the canvas for rips and tears and make repairs as necessary. You don't have to be a great seamstress to do this if you get a good needle for the job. A heavy, curved sailmaker's needle is perfect and it won't make such a big hole through the material. Use heavy nylon thread and tie off the ends. Rub a little hot paraffin into the seam and it should last the year.

Any spots on the metal camper body (and on any painted gear, for that matter) that are beginning to chip badly should be sanded off smooth and touched up. Sand down the edges

of the spot to be repaired and apply a coat of primer. Practically any color under the sun can be purchased in a pressurized can these days and they work just fine for such touch-up work. When using these cans, apply several light coats instead of one heavy one. With a little care your spray job can look very professional.

If your camping safaris are family affairs, the interior of your mobile home or camper van will probably be attended to by the not-quite-liberated lady of the house. Sorry about that, girls, but women really are better housekeepers than men. After those remarks it may sound like a left-handed compliment, but lady campers are notoriously cleaner campers than are the he-man variety. But just in case . . . be sure to clean out the ice box or refrigerator. Perishable food items left in a hot camper for several months can become quite fragrant.

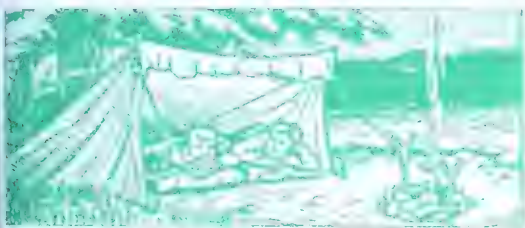
One of the items frequently stored away in a rather messy condition is the two-burner camp stove. Unless you've used it for nothing except boiling water, it's bound to be well lubricated with splattered cooking grease, coffee stains, tomato sauce and nobody knows what else. Chances are you'll give it a once over lightly with a soapy cloth before the camp is broken, but after the ride home a thorough cleaning will still be called for. A bucket of hot ammonia water is just the ticket. This job, incidentally, is made a lot easier if you wipe off the stove a few times while you're camping. Same holds true for the pots and pans. Keep them well washed and wiped dry while in the boondocks and the chore will be lessened considerably once you're home. If your favorite cast-iron pan was left out in too many



WATER FOR DISHES can be heating while you're eating. It then is an easy job to clean pots and pans before grease, etc., can congeal.

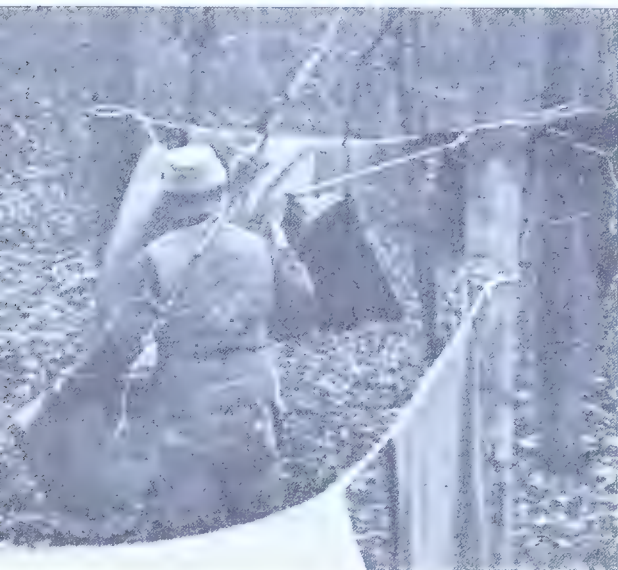
showers, this may be a good time to touch up the "seasoning." Scrub it well and dry, then coat all surfaces, including the handle, with cooking oil, place in a medium low oven for several hours, then wipe away the excess oil and store with the rest of your gear. As I have said several times in this column, a cast-iron frying pan is the most important piece of camping gear you'll ever own.

The second most important item is the sleeping bag. Any type of bag, and particularly the down bags, should be aired out once a day while camping. In between trips they should be unzipped and hung up on a clothesline to flap in the breeze and soak up some of the sun's rays. Washing is not necessary unless the bag becomes really dirty. If you must wash it, do it gently with lukewarm water and a very mild soap and tumble dry in a warm dryer. Dry in the sun for at least two days if you don't have access to a dryer. The filling might need some fluffing up by hand to restore its



original plump condition. Some bags must be drycleaned only. Check the maker's instructions.

The mantle on your white gas or propane lantern is bound to be broken when you return. You promise yourself that you'll install a new one first



SLEEPING BAGS SHOULD be aired often. Sunlight keeps them from getting a musty smell, also helps keep insulation—particularly down—fluffed up.

chance you get. But you won't. You'll wait like all of us do until you find yourself setting up camp some dark soggy night and wondering why in the world you didn't do it when you promised yourself you would. Do it now and cut off the loose ends of the tie-down string. I'm not sure why this should be done, but master-mantle-installer Ted Them of Curwensville insists that this is the proper procedure. Makes the mantle last longer . . . so he says. If your lantern is the propane variety, remove the cylinder. In spite of what the manufacturer says, they will leak pressure and are sure to be nearly empty the next time. Buy three or four extra cylinders now.

The portable ice chest, another standard item today, is one more piece of gear that is usually stowed away without being carefully examined. On the trip home, said cooler usually con-

tains: one strange lump of something (could be butter or cheese), two eggs (one cracked), three strips of rather sick looking bacon, half of a tomato and one slice of bologna. And in that cooler those items will stay unless you remove them immediately. Rinse out the empty cooler with warm water and baking soda and allow it to dry thoroughly with its lid open . . . if possible, in the sun. It will smell fresh and sweet on your next trip. Apply the same treatment to vacuum bottles and picnic jugs. Creamed coffee or milk that's been allowed to age in one of these produces, without a doubt, one of the foulest smells known to man.

Trucks and Vans

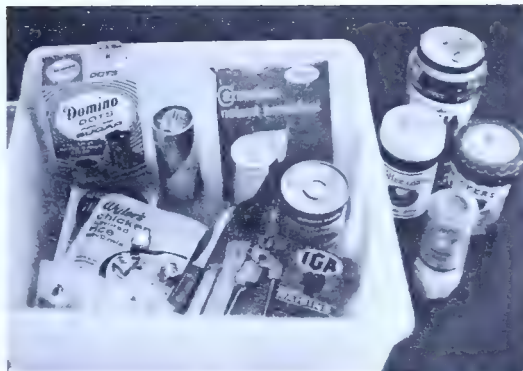
If your camping unit is of the pick-up truck or van persuasion, follow the same maintenance procedures that you do for the family car. Make sure it's well greased and change oil after you are home as well as before you leave. Check the head lamps frequently and make sure the battery is well charged. If you are renting a unit, make the rentor declare on his honor that the vehicle has been recently serviced . . . and if something is not working when you bring it back, be sure to tell him about it. You'll save the next camper who rents the rig some grief.

Check out the basic box soon after the return trip. You don't know what the basic box is? Well, goodness, you ought to have one. That's the box in which the standard or basic items of camp cooking are carried in. The basic box takes many forms from camper to camper, but mine is a rectangular Tupperware box that's about 18 inches square and six inches deep. Yours could be smaller or larger depending on what you like to call standard. Mine usually contains: a box of sugar cubes, salt and pepper, instant coffee, some tea bags, bouillon cubes, three packs of instant dried soup, onion powder, a combination can and bottle opener, paring knife and a roll of

paper towelling. These items are always carried. For a long stay away from home, I don't depend solely on the basic box. It's sort of just there in case I need it. For weekend jaunts it is dipped into generously and replenished as soon as I get home. The basic box should be waterproof and can be, if an emergency occurs, lived out of for a day or so. You may create a more elaborate basic box by adding some crackers, a jar of jelly and a few of the recently introduced canned puddings.

Met a camper up in Maine last year who had the fanciest basic box I ever saw. He called it his "just-in-case-box" and he admitted that in 20 years of camping he had only dipped into it four times . . . but each one of those four times he really needed it. His was made out of an old aluminum suitcase, lined with cork, and everything was tucked into plastic bags. His box went far beyond the staple list; in fact, he had enough in there to keep him for a week if he applied a little judicious rationing. He even had a one-burner stove fired with canned heat. Even if one were not planning to camp, such a box wouldn't be a bad item to have in the car trunk at all times. It could come in handy.

Guns, fishing tackle, golf clubs and the dozens of other outdoor items that campers carry with them deserve special care upon returning home. Clean them up carefully if you don't expect to be using them for a while. Of course, the serious shooter or the more-than-weekend fisherman will



A "BASIC BOX" SHOULD be in every camper's outfit. It holds rations for several days; should be used only in emergency.

probably attend to these items before he takes a shower . . . or at least he should.

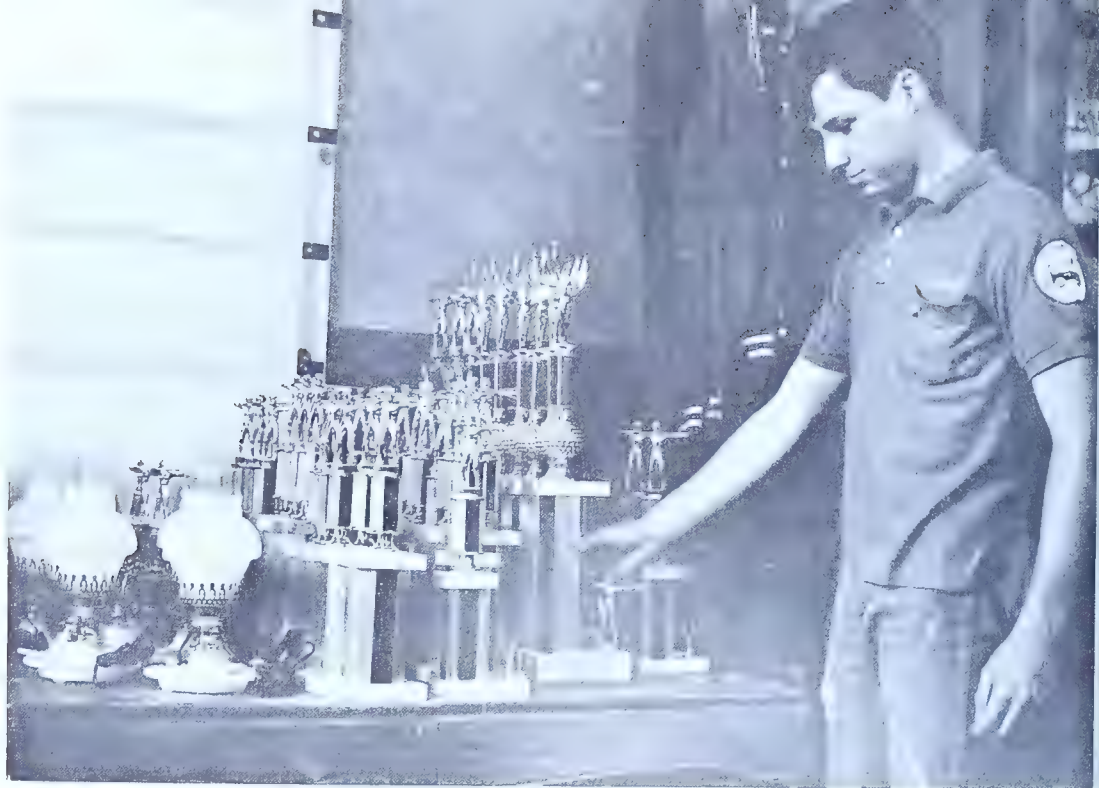
I must admit that March seems like a strange month to talk about what to do when you *return* from a trip. Most of us are just planning our summer adventures right now, or maybe we haven't even started. But there is some method to my madness. Did you really take care of your gear when you cached it away last summer or fall? In case you didn't, maybe this month would be a good time to check it out and make sure everything is in shape for the coming season. Toward the end of March we should be getting a few warm days, warm enough to air out that sleeping bag or putter around the garage looking for everything that got sort of lost during the winter. You might even come up with a new idea for a basic box. If you do, let me know. I just decided to check mine out and discovered I can't find it!

Almost Four Pounds Per Day

Bears eat heavily during the summer months in preparation for winter. One male gained 92 pounds in 24 days during June and July.

But Few Found a Home

More than 250 species of foreign game birds have been stocked in the United States for hunting purposes.



Archery Rewards . . .

For Golds and Game

By Keith C. Schuyler

Photos From the Author

VIRTUE MAY be its own reward, but the average archer wants something a bit more material to prove his prowess with the bow and arrow. If he is successful in competition or in the hunt, he wants something tangible from that moment to prove that he succeeded.

If this is counted as vanity, so be it. Nevertheless, it is a tradition that has carried down through the ages from before the dawn of recorded history. In fact, it is probably one of the first foibles attached to *Homo sapiens* that separated him from the other animals upon which he preyed. Some Indian tribes collected scalps. Antlers of deer and bison horns were an important part of the ceremonial dress of others. In ancient Greece and Rome, the *trophy* was a memorial to victory which was displayed on the battlefield or in some public place in the form of captured arms and other spoils, or a

more permanent architectural ornament. In several distant places, some still follow their tradition of collecting human heads and shrinking them as grisly trophies of success in battle.

Even though the defeat of any enemy provided extensive spoils of war with a much more practical value, it was common to retain some small evidence of the win. The food represented by an animal carcass was of much greater value at the moment than any of its waste parts, but a memento of the kill was frequently carried for years to evince the prowess of the hunter. Teeth, claws, skins—all were ornaments of accomplishment. Consequently, we quite naturally come by this desire to show off a bit.

Today, one of the most common evidences of skill with the bow and arrow is the mounted head of a big game animal. It may have been an easy shot at a moose or a deer that

tempted us into spending a considerable sum to retain the evidence of the hunt. Perhaps strangely, few ever bother to mount the squirrel or a rabbit which provided a much tougher shot and would cost a lot less to have preserved. We do seem to get a bit mixed up in evaluating whether we are trying to preserve the memory of the hunt, our skill as a hunter, or just an ornament. This confusion is carried to the target line where awards can become a subject of controversy within an individual club or a large organization.

One thing is certain, whether we like to admit it or not. All of us are inherently hooked on the pleasant habit of accumulating some evidence of our skill on the target line or on the hunt. So, let's take it from there.

An important part of that problem relative to target trophies is their basic cost. Most clubs survive financially through shooting events during the year which provide a considerable portion of their income. Everybody has a good time; it isn't necessary to raise dues to the members; and these events are generally popular among target shooters.

But if trophies or prizes are given to the top three shooters in each class, profit on the tournament can be considerably under what might be hoped for considering the expense and effort that go into staging such an event. This is particularly true in regions where attendance is somewhat on the low side. Clubs in an area where the average attendance at summer and winter shoots can be in excess of 100 have few problems on this score. They require no more facilities than the smallest club to meet regulations for a sanctioned shoot, and realize more



ARCHERY AWARDS may become scratched or gather dust as years pass, but they are always valued mementos to their owners.

profit. Nevertheless, there is a desire among everyone in organized archery to keep the awards program as uniform as possible.

Trophies are generally considered to be small statues mounted on bases of wood or plastic. Consequently, when a trophy shoot is announced, participants expect to get one of these permanent mementos of skill if they should win. A few of these sitting around the house can be quite impressive to visitors and are a means of recalling the pleasant events surrounding their acquisition. These trophies frequently carry a small plaque which may have the club name and event inscribed on them. The owner can have his name and the date affixed if he so wishes.

Although any prize is a trophy of a sort, other such awards consist of small plaques, buttons or pins which can be worn on clothing or tackle, or medals or merchandise. The latest gimmick is a gift certificate which can be used at a local sporting goods store.

One of the most popular awards today is a personalized medal with a threaded button in the back so that it can be attached to a belt or quiver.

STRAIGHT
FROM THE BOWSTRING

These usually have the host club name and insignia on them and are quite attractive. They carry a fairly low price by comparison, yet they can be worn as evidence of the archer's skill. The only thing that differentiates one from the other is usually the gold, bronze or silver trim, depending upon whether it was a first-, second-, or third-place win. There is no other evidence as to the class in which the award was made, so the lowest class competitor who scores well may carry as many medals as the top archer in the tournaments. They provide evidence of the winner's skill in his particular class, which of course requires as much individual effort in one class as in another.

For some of the more important events, pinned ribbons with medals attached are given, as in the national events. Other medals are constructed to accommodate a chain so they can be worn about the neck.

Then there are merchandise awards. These can consist of anything from flashlights to fish knives to beach um-

brellas. Such awards are the most risky from the standpoint of satisfying the customer, since tournament winners may already have flashlights, they may not be interested in fishing and they may never have been near a beach (or have no backyard).

Gift Certificate

An alternative is the increasingly popular gift certificate. This appears to be a very practical gift. However, it frequently means an additional trip for the tournament winners who may come from many miles distant. Winners seldom have time on the usual Sunday when tournaments are held to go to such stores, even if the stores keep Sunday hours. This negates some of the value in the certificate. They can be accumulated during a series of shoots and be spent after the season ends, but an additional trip is still needed. One big advantage in such certificates is that they can be written out only as needed.

With trophies, medals and pins, it is necessary to purchase such items beforehand so that they will be available on the day of the shoot. Trying to guess how many will be needed can be a real problem and involve a considerable outlay of cash. Even though leftovers can be used at subsequent tournaments, they still tie up money as they gather dust until they can be awarded.

Although some archers claim they do not care for awards and just shoot because they enjoy it, they will frequently travel many miles to attend a trophy shoot. The same person may have a shelf full of trophies at home, but he still likes to collect them as mementos or as conversation pieces.

Trophies have the edge by far in popularity among young people. Consequently, although many clubs turn to other items to economize at tournaments, it is generally conceded that trophies have the most appeal for youngsters. There is nothing more likely to encourage a kid to improve his or her skill than that first trophy.



BELT OF THIS Shickshinny target archer displays evidence of his prowess in field shooting, makes an attractive item for outdoor wear.

Without some tangible evidence of advancement for archers, it is extremely doubtful that there would be the interest in formal shooting that is evident today across the state. Amateurism is a bright spot on today's sport horizon that is too often clouded by smog or cut into by cliffs of high-rise apartments, office buildings or other edifices of our so-called modern society. These marks of material gain have yet failed to extinguish the fires of accomplishment for accomplishment's sake. A small memento of that accomplishment which has an insignificant cost, and which becomes worthless to all but the person who earned it after it is presented, cannot be construed as a material gain. Hence, the precious evidences of skill which gather tarnish or dust never lose their lustre to the person who earned them on the shooting line.

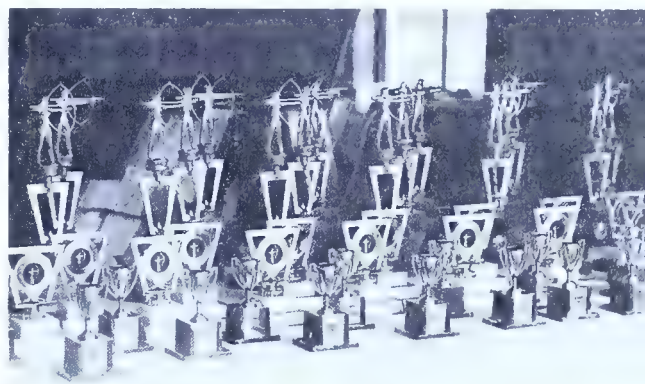
The foregoing might be misinterpreted as a look down the nose at professionalism in archery. Not so. But to justify a favorable comparison between amateurism and professionalism, we should first take a look at the fundamental difference: cash.

Grocery Money

The National Archery Association leaves little room for doubt or grocery money in its definition of amateurism. Summed up, an amateur may not compete for cash or awards which exceed \$70 in value for first place, \$40 for second place and \$30 for third place. He may not accept cash for coaching, exhibition shooting or use of his name or photo to promote the sale of products or ideas. Further, he may not accept expense money in excess of \$20 daily plus travel expense when going to tournaments. Even when lodging costs exceed this amount, no more than an additional \$5 per day may be authorized and then only by consent of the N.A.A. board of directors. If employed by an archery firm, he cannot accept paid time off for practice or have his expenses paid by the company. Even if he is self-employed in

manufacturing archery tackle, he can't use his own name, photograph or shooting prowess to promote his own wares. He may compete with professionals for like awards so long as cash is not involved.

If the amateur who deliberately or accidentally becomes a professional in



ASSORTMENT OF AWARDS given at recent archery competition. Good attendance at such shoots indicates desire of bowmen to acquire such a prize.

the definition of the word wishes to regain his amateur status, he may apply for reinstatement. If approved, he has a waiting period of one year. But even if he gets back out of the money, in a manner of speaking, he cannot compete in any state, district, national, international or Olympic competition.

The preceding is given merely to encourage a new regard for the top shooters who cling to their amateur status. What immediately follows is intended to instill respect for those who go the money route—the professionals.

Professionalism in archery simply means that the individual can break all the rules of amateurism for personal gain, as a livelihood. This doesn't provide carte blanche for a professional to live off archery without strict adherence to a code.

For example, the Professional Archers Association has a definite code of ethics and honorable aims toward the improvement of archery in general.



THE ARCHERY HUNTER, when successful, claims a different kind of trophy—in this instance a whitetail doe which will provide many steaks and chops.

Founders of the organization in 1961 included in the constitution and by-laws: "... to elevate the standards of the professional archers vocation; to promote interest in the game of archery; to protect the mutual interest of its members; to hold meetings and tournaments periodically for its members; to assist deserving members, who may be unemployed, to obtain employment." Included in the code is the primary provision that the professional archer is bound to make every effort to protect the amateur standing of amateur archers.

If you are still asking why there should be professionals in archery, there are practical considerations which extend into the more mundane areas of the sport. With as much as

\$20,000 in cash awards at one shoot, those who compete take a business approach to the test of their individual abilities. They demand the best that manufacturers can come up with in tackle. Each tournament is a test of tackle in addition to human performance that has financial overtones. A breakdown in any item of tackle can be costly to the participant and financially embarrassing to the manufacturer, for within the bounds of dignity there are no holds barred in the exploitation of individual ability and commercial offerings as there is in amateurism. Both the shooter and the tackle are on the spot to perform expertly or suffer a joint financial loss.

The overall picture augurs favorably for archery in general. All archers are the beneficiaries of tackle improvement and advancements in technology which are the happy penalties of failures on the commercial firing line.

The cash cadre is in its infancy in archery, but its purpose and performance is no less nor no more than that found in other sports. The generally higher scores produced by pros are indicative of the extra effort put forth by those who came, for the most part, from the ranks of amateurism. Many have been enticed away by the manufacturers and others have used personal reputations established with the bow to further individual extensions into commercialism.

Jump Into Limbo

Unfortunately, some have jumped too fast. They do not have the ability to make professionalism pay. They have traded the glory of unselfish devotion to the sport for a limbo area that offers neither financial reward nor memento for their efforts.

If all this talk about trophies, awards, money, and success in the hunting field appears over-emphasized, it certainly is not intended. To do so would be a definite disservice to the vast majority. Coming up and coming into the ranks of archers are those who never have tasted victory, so to speak.

They are the day in and day out bow benders who shoot simply because they enjoy it. Many are not in organized archery, They have no chance in the usual sense to *win* anything.

Many are the scattered bow hunters who claim their trophies in the field by virtue of one well-placed arrow. Their competition consists of the forces, the simple complexity, and the cupidity, of nature herself. Applause must come from dry leaves clapping in autumn, the soft sounds of approval made by wind through evergreen tops in winter, or the appreciative hand-clasp of a companion at any time after a single score.

And although there is always a visible evidence of success, whether it is a tiny medal, a check, or a giant buck deer, most important to every archer is the reward to the inner man. In that instant of recognition is the sense of accomplishment that makes it all worthwhile.

These reasons should be a clue to those in organized archery to keep an eye on archers who are not likely to reach the top in any competitive class. Shooting against one's own best score is competition of a sort, but each of

us wants some recognition that we have succeeded against others. Otherwise, we would all shoot alone.

A handicap system which recognizes the improvement level of the individual leaves out no one who is trying, and it can encourage the mediocre to unexpected heights. It provides both an incentive as well as a reward for the fellow who is not satisfied. It can help him if he is one of those who carry a hunting license as well as a membership card.

To encourage participation among the hunting members of a club who are not particularly interested in competing for bullseyes, there is a popular alternative. Many organizations set up a contest with trophy awards for hunting competitions. Most such contests recognize the biggest deer, the biggest carp, or other variations with comparable awards as in target shooting. Others use a point system which encompasses the entire year and includes varmints as well as legal game. It is a form of deserved recognition in a most important part of archery.

All want a chance for a reward, whether trying for golds or game.

Deer and Bear Measuring Dates and Sites

DATES and locations for the 1971 scoring sessions of white-tailed deer antlers and bear skulls from trophies taken in Pennsylvania are listed below. For complete rules governing the program, see the January GAME NEWS, page 39.

March 20: Reading Division Office, 10 a.m. to 6 p.m.

March 21: Reading Division Office, 10 a.m. to 6 p.m.; Dallas Division Office, 10 a.m. to 6 p.m.; Broadheadsville Fire Company, 10 a.m. to 6 p.m.

March 28: Towanda Courthouse, 10 a.m. to 6 p.m.; Honesdale Armory, 10 a.m. to 6 p.m.; Lock Haven Armory, noon to 6 p.m.

April 25: Huntingdon Division Office, 10 a.m. to 6 p.m.

May 2: Ligonier Division Office, 10 a.m. to 6 p.m.

May 15: Franklin Division Office, 10 a.m. to 6 p.m.

May 16: Franklin Division Office, 10 a.m. to 6 p.m.

Everyone who has a set of whitetail antlers or a bear skull taken according to the rules listed above is urged to bring his trophy in for scoring. Each owner receives a card showing his trophy's score. Full data on all measurements will be maintained at Game Commission headquarters, in a permanent file.

A Look at the Semiauto Shotgun

By Don Lewis

Photos by Helen Lewis



THICK PINE GROWTH makes shots at bouncing bunnies difficult, but Lewis finds autoloading shotguns ideal for the assignment.

"THAT'S A mighty fine looking shotgun, Don," Milt remarked as he helped me unzip a contrary gun case, "but I'm a little surprised to see you using a semiautomatic. I always thought you were a double-barrel believer. How come the switch to the semi outfit?"

"As of right now, I still lean toward the double, but, as a gunwriter, it's only fair to try them all. Sometimes we have a tendency to get hung up on one type of rifle or shotgun, and we get to thinking it's the only one in the world."

"I'm well aware of what you mean," Milt cut in. "I used to feel a good bit the same way about my pet 30-30. For years I honestly thought it was the only deer rifle ever made, and I was against every other caliber."

"That's nothing to be ashamed of. If success is had with one model or caliber, it's only natural to stick up for it."

"Do you think the semiauto will eventually replace the other types?" Milt asked as he booted a brush pile.

"No, I can't think that any gun could do away with all the rest. The semi is no stranger to me, and it has plenty to offer, but it won't please everyone."

Rabbit Scoots Out

Milt started to say something but just then a rabbit ripped out at his feet and scooted in front of me. Milt couldn't shoot. I missed the first shot, and when I got the lead I needed, the semi wouldn't fire. I pulled the trigger several times before I realized it was not going to discharge. I checked the shotgun and found the action had not closed on a new round.

"Why didn't you take another shot?" Milt asked as he put the dog on the

hot trail. "That rabbit was smack in the open."

"I know," I answered. "I tried my best, but I can't shoot when the gun fails to fire."

"Fails to fire?" Milt said in a surprised tone. "Isn't it unusual for that to happen with a new gun? Though I'll admit I've heard the autoloaders can really foul up."

"Let's not get hasty and blame a perfectly good gun when it had nothing to do with the misfire. The blame rests with my handloads. I guess you could refer to my problem as the handloader's bulge."

"I was under the impression that your press took care of the bulge problem," Milt said as he examined the extracted case. "This case seems okay."

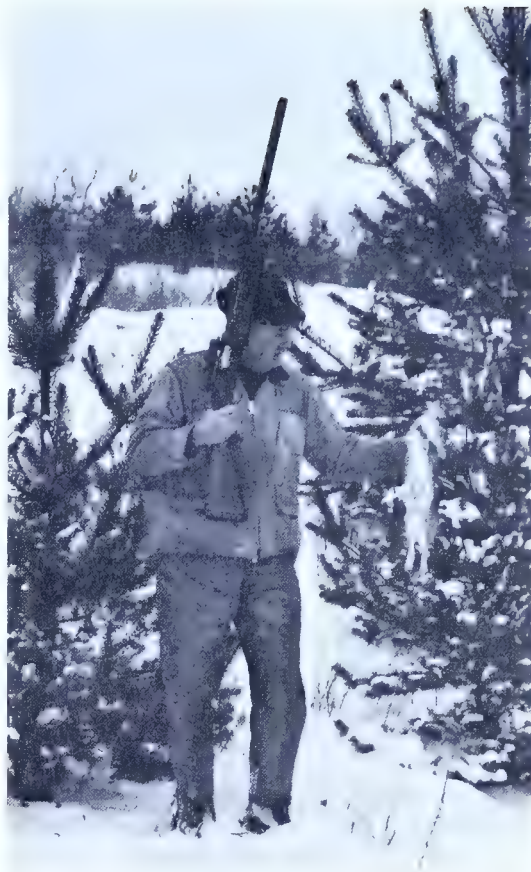
After getting three hand-picked shells in the gun, I explained to Milt that most of the criticism against the semi was uncalled for and untrue. Our conversation was interrupted by the return of the rabbit. It wasn't Milt's day and the rabbit passed on my side. I had poor shooting, but I got it on the second shot.

"Nice shooting, Don," Milt said happily. "By gollies that's the way I like to see it done. Say, that gun worked perfectly this time. There wasn't anything wrong with those two shells."

"Well, you know my handloads are always perfect," I kidded.

That was a statement I shouldn't have made. We hadn't gone 50 yards when I put up a rooster. My shot missed, and when I pulled for the second shot, the gun failed to fire. I was disgusted.

"I'm going to check this outfit completely right now," I said. "There's no



WITH GUNS, PROOF of the pudding is what goes into the game bag, and as shown above, a self-loader fills the bill.

use of going on under these conditions."

I removed the shells and disassembled the gun. I checked the gas ports just in case one might be plugged, but after five minutes, I knew there was not a thing wrong with the gun. My next step was the shells.

Milt and I examined each one, trying to detect a bulge around the base. It was apparent that my press had done a good job in that area, and I was about ready to throw in the towel when I found the answer. I discovered that during the crimping operation, a "roll bulge" had formed on some of the cases. Actually, it might be more proper to call it a "flare-out" bulge. We had been looking for the normal pressure bulge just above the brass, but the problem was at the front.

Without working the action, I attempted to push one of the flared rounds into the chamber. It was tough

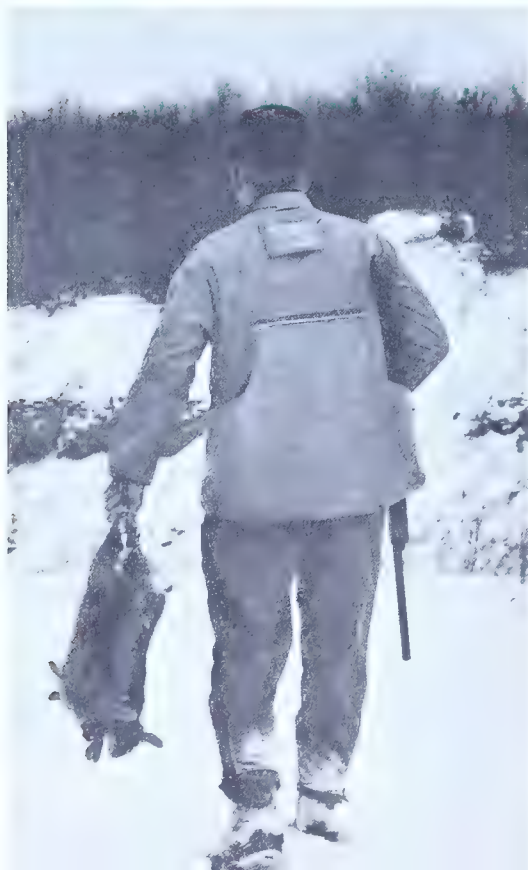


sledding from the start, and I knew why the operating spring had failed to chamber the shell completely. The flare didn't seem to be much, but it was enough to make the gun inoperative.

The morning was saved by using Milt's factory rounds. When I got back to my reloading press, I made the necessary crimping corrections and my problem was solved. It wasn't much of an error, but enough to cause a headache.

There have always been claims that handloads aren't suitable for self-operating shotguns. I mentioned this episode of mine not to strengthen that argument, but to show that they can be at fault if not properly assembled. When I switched to correctly sized and crimped handloads, the trouble was over. To satisfy my curiosity, I tried some of these "flared" shells in a 12-gauge pump, and it took a powerful heave to close the action. Under

TRUDGING HOME AT night is always more satisfying if there's some game to show to the better half, justifying the time afield.



normal hunting conditions, I believe the pump would have failed also.

The semiautomatic is just as dependable as other shotgun designs. Since it happens to be more complex than a manually operated shotgun, it will require more attention, and this factor alone should not be overlooked. The semi outfit works with lightning speed. The same gases that push the shot up the barrel force the bolt back against a powerful return spring and, at the same time, extract and eject the empty case. A new round is fed into the chamber with the return of the bolt. The entire operation is completed in an instant. The shooter does nothing but pull the trigger.

No Firepower Fancier

I'm not an advocate of sheer firepower. Milt was right about my being a double-barrel fancier, and it took awhile for me to fully realize just how much the semi has to offer. I did miss the shell selection that only a double offers. I no longer had the instantaneous choice of two shells—low brass in the modified barrel and high brass in the full choke barrel. This didn't create the problem I used to anticipate, though I can recall a few times when I used this feature of the double to a good advantage. I still like the double, but after considerable use of two autoloaders recently—the fine 1400 Winchester and a beauty of a 1100 Remington 20-gauge lightweight model—I feel much better acquainted with the semi.

Some of the early semiautos were bulky and heavy and not fully dependable, but this can't be said about these two modern designs. My 1100 Remington weighs 6½ pounds and has functioned flawlessly. The snappy, light 20-gauge was ideal for the rough, steep terrain where I hunt. Having a good beagle, I hunted in the thick pine trees on worked-out strip mine areas. These trees had been planted every few feet to keep the soil from eroding. They are dense and the going is tough. A lightweight gun is a must.

I carried the 20-gauge 1100 on several all-day hunts, and soon learned to appreciate having a fast action gun that didn't pull my arms from their sockets.

In case hunting in thick 15-foot pines might not be familiar, let me say the shooting is quick and aiming nearly impossible. The hunter sticks to the few opening and old pathways and allows the dog to do the routing. When the chase begins, the hunter must keep on the alert to get a shot when the rabbit zips across a small opening. This requires fast shooting, and from my own experiences, the semiautomatic is in a class by itself under these conditions. No use denying that a lot of misses occur. I got several rabbits with the second shot where the average pump user would have fired just once.

The 1100 Remington and 1400 Winchester I'm using have ventilated ribs and each has a field stock. In other words, the stocks do not have the unusually high combs typical of trap guns. This may sound rather strange to some, but each of these models could satisfy the shooter who hunts a lot and shoots trap occasionally. I've had hunters tell me that the ventilated rib has no place on a rabbit shotgun, but I can't agree. I found it had a distinct advantage after I got on to it.

Easy to Disassemble

I mentioned earlier that the semi needs more attention than other designs. I found that under warm, dry conditions, each gun performed without a hitch. I kept checking the residue buildup in the gas port area, and on the days that I hunted in heavy rain, I found the residue buildup to be greater. This doesn't create much of a problem. The semi is one of the easiest guns to disassemble, and in a matter of three minutes, the gun can be taken apart, cleaned and assembled. I use a stiff wire brush to remove the burned powder residue, and I never oil these parts. Perhaps the guns would have fired without the



HANDLOAD WITH "flared" crimp caused some trouble in autoloading shotgun, but this is reloader's fault, not the gun's, and is easily taken care of.

preventive maintenance I used, but I can't see where it makes sense to run the risk of not getting a second or third shot due to not keeping the gas ports open and the power piston clean. This doesn't have to be done after every hunt, but the gun should be checked several times during the season.

I've stated a number of times that I feel the semiautomatic shotgun is not a good choice for the beginner. I won't go into too much detail on this, since I have made it abundantly clear that I feel this type of action is just too quick for the inexperienced hunter. In fact, I'm an advocate of the simple single shot for the first two years regardless of the hunter's age. Here again, it may be surmised that if a shotgun is somewhat of a safety hazard for the beginner, it would just be as unsafe for the experienced hunter. This is not true. My only complaint against the new hunter using the semiautomatic is that, once fired, it's instantaneously ready for the second shot. I feel that in the excitement of downing a rooster or tumbling a speeding rabbit, the new hunter could forget that his shotgun is loaded and ready to go. An accidental firing might happen under these tensed conditions. I might throw in that the double-

barrel falls into this same category, and I don't advocate the double for the new hunter, either.

The semiautomatic need not be feared because it is self-operating, and the hunter is not buying trouble of any kind with the purchase of one. In being objective and honest, I'm only giving the facts, plain and simple. As for myself, I had better success with the two semis I used than any of the other shotguns in the past. The semi may be a bit eccentric to some, but it has plenty to offer.

As far as the unloading procedure goes, it's not a lot different than the pump. I've always made it a practice to unload my shotgun while I'm still some distance from the group I'm hunting with, and I keep the muzzle pointed toward the ground or a natural backstop just in case. I had no problems unloading the two semis. I unloaded each by manually operating the bolt. The literature that came with each gun recommended several ways, including the way I did it, and I found it easy to give a quick pull on the bolt handle with the muzzle pointed in a

safe direction.

That's pretty much my report on the semiautomatic shotgun. As you noticed, I refrained from going out on the limb and exaggerating the virtues of this gun. I had real success and few problems with the two I used during the small game seasons. In the past, I've had some experience with Brownings, the Franchi, and several others. Each functions much the same way. I won't suggest a particular brand or gauge. This should be decided by the purchaser, and the selection should be made after personally getting the feel of the gun.

The semiautomatic is not the only shotgun nor will it ever reach that plateau, but take it from a small game hunter whose career includes several dozen shotguns, the semi is here to stay. I'm not going overboard for any gun. I enjoy hunting and the outdoors so much that the gun is secondary with me. I do want a dependable shotgun that fits me and one that I have a lot of confidence in. A lot of my future hunting will be done with a semiautomatic.

Looking Backward . . .

"The white race in Western Pennsylvania practically came first in contact with the Indians in purchasing furs and skins from them. The Indian was naturally a child of the wilderness, and excelled in hunting wild animals. As a result the Indian towns abounded with the skins of the buffalo, bear, deer, wolf, beaver, otter, mink, fox, raccoon, etc. They shot these animals with bows and arrows or with firearms. They speared fish, or caught them with rude hooks made of bone, or drove them into ponds screened with small rods. They also fished with rude nets, made from the twisted fiber of wild hemp. Both animals and fish and all game birds were then extremely plentiful. The life the Indian led had developed his senses of sight, hearing and smell to a degree which amazed even the shrewdest woodsman among our early settlers. He knew the habits of all wild animals, and could detect the slightest movements in the forests, movements invisible to the eye of one unaccustomed to the woods. With these qualities he easily surpassed the average hunter in procuring skins and furs and wild game."

John N. Boucher, "History of Westmoreland County," p. 72, Lewis Publishing Co., New York, 1906.

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS *Executive Director*

ROBERT S. LICHTENBERGER *Deputy Executive Director*

EDWARD T. DURKIN *Comptroller*

Division of Administration

DANIEL H. FACKLER *Chief*

Division of Research

DALE E. SHEFFER *Chief*

Division of Land Management

HARVEY A. ROBERTS *Chief*

Division of Law Enforcement

JAMES A. BROWN *Chief*

Division of Minerals

JOHN B. SEDAM *Chief*

Division of Propagation

RALPH E. BRITT *Chief*

Division of Information and Education

ROY W. TREXLER *Chief*

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188

BUTLER, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.
SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.
Phone: A.C. 412 238-9523 or 238-9524

Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641

Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.
SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.

Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.

Phone: A.C. 717 675-1143 or 675-1144
Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.

Phone: A.C. 215 926-6071
Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473.
Phone: A.C. 215 287-8151

WESTERN GAME FARM—Jack N. Anderson, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212

LOYALSOCK GAME FARM—Charles Pfeiffer, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500

STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223.
Phone: A.C. 814 275-2515

STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

HOWARD NURSERY

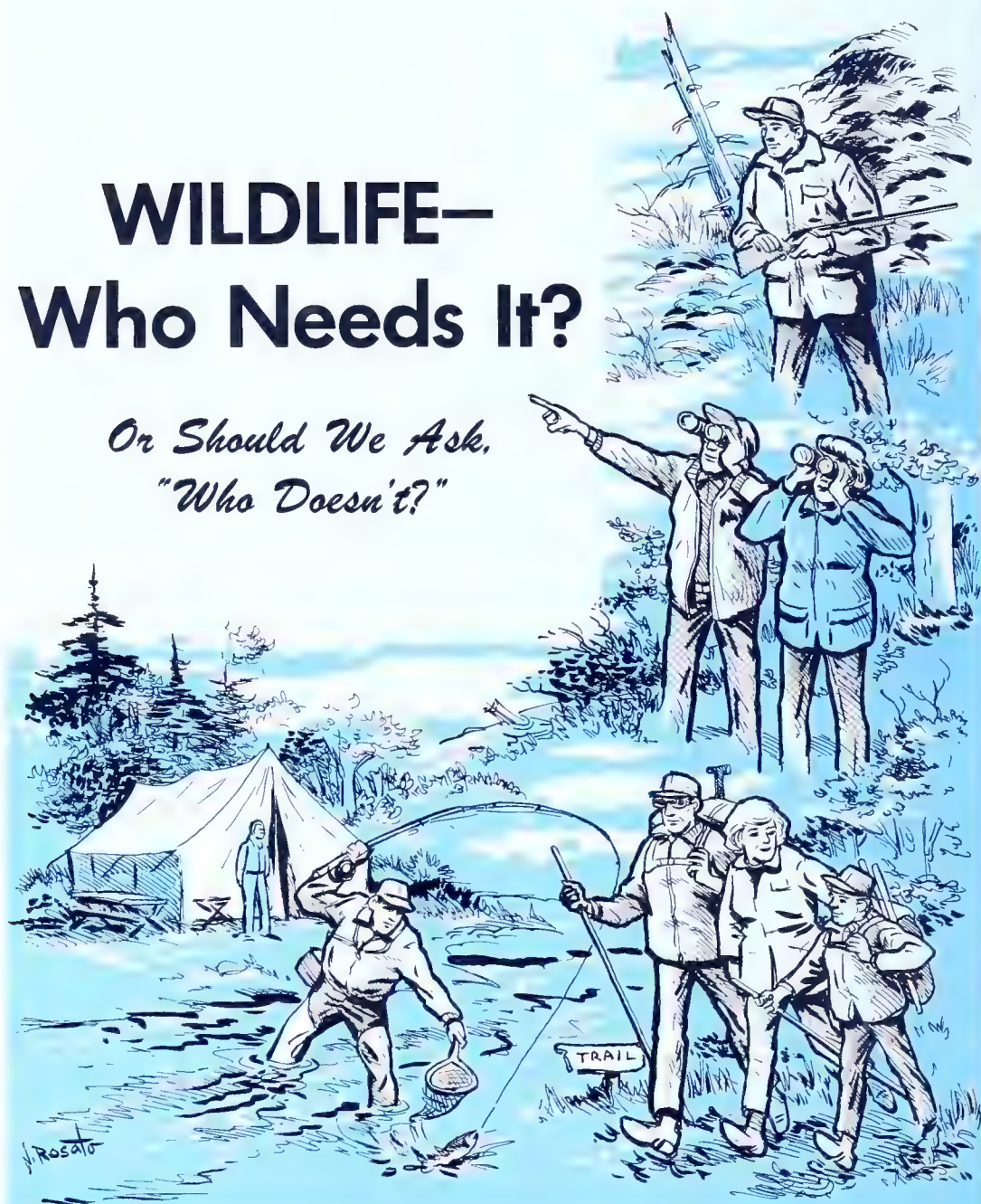
SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brookway 15824. Phone: A.C. 814 265-0456

WILDLIFE— Who Needs It?

*Or Should We Ask,
"Who Doesn't?"*



NATIONAL WILDLIFE WEEK MARCH 21-27

1.6
Vol. 42, no. 4

PENNSYLVANIA STATE
DOCUMENTS SECTION

MAR 18 1971

PA NSYLVANIA GAME NEWS

APRIL, 1971

15 CENTS



Kaplan

PENNSYLVANIA GAME NEWS

Volume 42 • Number 4

APRIL, 1971

Published Monthly by the
PENNSYLVANIA GAME
COMMISSION
COMMONWEALTH OF
PENNSYLVANIA

Milton J. Shapp
Governor



COMMISSION MEMBERS

Edwin J. Brooks, President
Lansdale
Andrew C. Long, Vice-President
Shamokin
H. L. Buchanan, Secretary
Franklin
James A. Thompson
Pittsburgh
Loring H. Cramer
East Stroudsburg
Frederick M. Simpson
Huntingdon
Robert E. Fasnacht
Ephrata
Marshall E. Jetty
Brockway



Glenn L. Bowers
Executive Director



PENNSYLVANIA GAME NEWS

Robert S. Bell
Editor

R. Theodore Godshall
Associate Editor

John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
'Then There Was One	2
By Albert G. Shimmel	
Snakebite and the Hunter	7
By William B. Allen, Jr.	
Rare Visitors	11
By Tom Fegely	
Noise!	14
By Eugene R. Slatick	
Knives for Big Game Hunters	18
By Gene West	
The Key—Experience on Birds	22
By Nick Sisley	
Handloaders Need Chronographs	26
By Edward M. Yard	

NEWS

Field Notes	34
Conservation News	39
By Ted Godshall	
Hunter Safety Education	44
By John C. Behel	

COLUMNS

A Naturalist's View of Wildlife (The Cottontail Rabbit)	45
By Leonard Lee Rue, III	
What About Self-Contained Campers? (Camping)	49
By Les Rountree	
How to Hit the Target (Archery)	53
By Keith C. Schuyler	
Choosing a Chuck Scope (Guns)	59
By Don Lewis	

COVER PAINTING BY KENT PENDLETON

For many hunters, the canvasback is the most desired duck that flies—an opinion based primarily upon its excellent eating qualities. This, in turn, derives largely from its preferred diet of wild celery (*Vallisneria*), which gives the species its Latin name, *Aythya valisineria*. The Cajuns give it a more picturesque monicker—*canard cheval*, meaning horse duck. This comes from the sloping profile of the canvasback's head. Today's canvasback population is perhaps only one-third of its peak in the mid-1950s, a result of deterioration in the pot-hole breeding habitat during the late '50s and early '60s. As a consequence, bag limits are very restricted. Exclusively a North American duck, the canvasback gathers in large rafts on bays and estuaries. It sits low in the water—a compact, broad-shouldered duck—and occasionally dives as deep as 30 feet to feed.

Published MONTHLY by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$1.50 per year; \$4 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved.

NOTICE: Subscriptions received and processed by the last day of each month will begin with the second month following.

Printed by Times and News Publishing Co., Gettysburg, Pa.
Second Class Postage Paid at Gettysburg, Pa. 17325

Who's Facing the Test?

HE WAS FIFTEEN YEARS OLD, on his first big game hunt, and there before him was the first white-tailed buck he'd ever seen in the woods. It was a spike, sleek and fat, round as an apple, and very dead, with a small red hole just behind the shoulder. He hadn't shot it. Nor had his father or the two friends hunting with them. But they'd heard a rifle only minutes before, as they angled through the hemlocks, and doubtless that was the shot which had downed this fat buck. Whoever fired it had vanished, though, for that year spikes were not legal and the hunter who had done the shooting, apparently hoping that close examination would reveal a "Y" on at least one side, had disappeared in the surrounding woods when a quick examination had shown this not to be the case. Bootprints in the snow told that much.

"We oughta do something," the boy said, and an older companion asked, "What can we do? Whoever did this is gone. There's no way we can find him, no way to prove he did the shooting even if we caught up with him." He was looking at the bootprints. Made by average-size shoe-pacs, they were no different than a hundred pairs on the mountain.

"At least we can gut it out, tell a game warden where it is."

"Better not touch it. Just our luck to have the warden come along and accuse us of shooting it."

And so they walked away, the boy feeling helpless anger, outrage, disgust. For years he'd looked forward to the time when he could go deer hunting, the time when he could take part in the finest sporting endeavor he could imagine. Now the time had come, and it was spoiled. First by someone he'd never seen and wouldn't recognize if he did meet. That was bad enough, but not as bad as having his own father and friends refuse to rectify the situation so far as it might be possible to do. He couldn't understand it. He'd grown up listening to hunting stories—true ones—and the possibility of illegal or unsporting acts just never seemed to come up. Yet here, on his first real hunt, he'd seen with his own eyes that such things did happen. It was enough to make him consider giving up hunting.

As it happens, that boy, whom I knew very well, didn't give up hunting. But even now, decades later, the memory of that first deer hunt still rankles, and he wonders what his older companions might have done if they'd taken a moment to consider the future effects of their actions upon him. And this makes me wonder how you and I, when we have occasion to show by example how we'd like a beginning hunter to act, meet the test that he, whether we realize it or not, is really subjecting us to.—*Bob Bell*



CHUCK
RIPPER

Then There Was One

By Albert G. Shimmel

THE MIRACLE of spring came to the grass-lined cell that lay beneath the surface of the slope. Four wrinkled, helpless woodchucks squirmed on the dry bedding of the nest. When the warm softness that was their mother filled the den, they satisfied their hunger and went to sleep. With solicitous care she changed the bedding when it became soiled, fed, groomed and guarded them.

Before the full moon came again their eyes opened. They nibbled experimentally at the greens she carried in. They wandered about in the darkness on awkward legs. One day they ventured to explore the passageway that led outside. The anxious mother, feeding close at hand, saw them crowding at the entrance. She allowed them to sniff and blink, half-blinded by the sun, then herded them below. Each day they ventured from the den. Their eyes grew more accustomed to the light. They gained in strength. The watchful mother kept them close. Three of the young had normal coats of grizzled gray, but Monax was as dark as night. . . .

The red-tailed hawk that rode the high spring thermals was familiar with the panorama that lay beneath his outstretched wings. The lake, the swamp and the wooded ridges that rimmed the high plateau were his domain. Often as he circled he turned his head to watch his brooding mate.

Three years before the pair had found a nesting site. The towering oak that stood on the rise of ground between the two arms of the lake became their home. It overlooked the grassy parklike slope, a bubbling sand spring and a tiny bay.

Stout sticks, many of them an inch in diameter, were wedged into the high crotch to form a sturdy founda-

tion. When this was solidly in place they built of smaller sticks until the structure was complete. The nest cup was lined with shredded bark filched from a red squirrel's dray. They raised their brood successfully. Year after year they carefully repaired the damage caused by winter storms. They added to the nest until it bulked a yard in diameter and almost that in depth. . . .

The famine time was past. The snow was gone. The first faint flush of spring was on the land. The fallen leaves, pressed flat by winter snow were being pushed aside by plants responding to the lengthening hours of light. The faint perfume of arbutus clung to the ground.

Chipmunks, fresh from hibernation, called excitedly from elevated stands on stump or log. Some dashed about, establishing once more their claims to areas around their dens. Some played at chase and catch with others of their kind.

The night was filled with titterings of sleepy birds. Flying squirrels planed from tree to tree in games of tag. Loons called from the lake where muskrats broke the surface into scales of silver light.

Heron Among Sedges

At dawn a great blue heron landed awkwardly among the sedges where the marsh and lake were joined. It froze to immobility. Meadow mice, so long restricted by the cold, were tempted from the safety of their covered runs to cut new blades of sprouting grass. The heron seemed a piece of grotesque wood. A mouse moved cautiously. The heron's stroke was swift and sure. A second mouse was caught before the heron stalked away. Suddenly, it squawked, leaped into

the air and flapped in haste toward the open lake.

A red fox hunting through the sedge for mice to feed its growing pups, had glimpsed the heron's dignified approach. It melted into the scant cover and waited. The catlike pupils of its yellow eyes contracted to black slits. Its muscles tensed. Slight as the motion was, the heron saw and leaped away from peril. . . .

The hawk, circling above, saw the red fox turn away in disgust. The fox preferred to hunt at dawn and dusk, but pressure to provide food for growing pups kept both parents busy beyond regular hunting hours. Halfway up the rise of ground the fox froze suddenly. He tested the gentle air that flowed toward him, found a thread of scent. He was familiar with the woodchuck's den but this was the first time he was aware that the young had ventured above ground. He moved slowly forward. A quarter-hour ticked by. He lay beside a fallen log, motionless, within a dozen yards, and watched.

Two of the grizzled young lay on the mound of earth that marked the den. Monax fed nearby. The runt of the litter moved restlessly. When it ranged too far the mother drove it

back. It seemed rebellious under this restraint and strayed each time a little farther than before.

The hawk circled down to a hunting perch on a dead pine, a hundred yards below the den. The vigilant mother sat up to watch this threat to her family. The young one saw an opportunity. It moved toward the log where the fox lay waiting. . . . Then there were three. . . .

The magic of the season touched the waters of the lake. The suckers, which through most of the year were content to gather sustenance from the diatom-rich ooze that covered the bed of the lake, crowded into the brooks on their annual spawning run. A pair of migrating ospreys saw the fish. They circled down. The redbill watched but did not challenge them. A tall pine snag beside the brook provided a convenient perch. When they had rested briefly, the female of the pair ringed up to hang suspended on winnowing legs. Suddenly she plunged downward, taloned feet extended. The impact sent the water up in sheets of silver filigree. With a powerful thrust, she cleared the water and mounted upward toward her mate, a sucker flapping feebly in her grasp.

Panic

The school scattered in panic. One stranded on a gravel bank. A female mink plunged from the sedge and seized the fish. As she moved toward her den the dying fish extruded amber eggs.

The hawk followed the animal's progress through the sedge then swooped low to investigate. The mink heard the sound of wings, dropped her fish and dived into a tangle of roots. Disappointed, the hawk beat her way toward the ridge. Her course took her toward the woodchuck's den.

One of the young, tempted by a clump of dandelion that grew some distance away, forgot caution as it moved toward the golden flowers.

The hawk saw the animal and cir-



THE HERON SEEMED a piece of grotesque wood. Its stroke was swift and sure. A second mouse was caught before the heron stalked away.

clad above until the young woodchuck moved beyond the point of safe return. Twice it paused to search the surroundings for possible danger. Too late it turned to run. Death was a shadow diving swiftly out of the sun. The strike was sure. As the hawk's legs bent to cushion the impact, the shortened tendons drove the talons through the grizzled hide and locked them there. The hawk labored under the additional weight. As it cleared the grass the animal's tail quivered then the body hung limp.

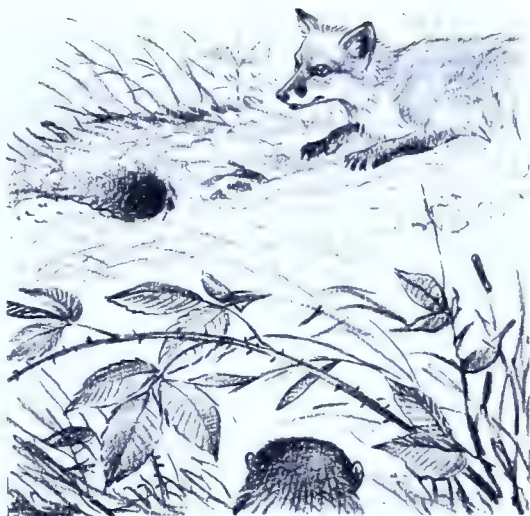
The old chuck's warning whistle came. It sent the remaining youngsters diving for shelter. She followed them. Now there were two. . . .

When spring was at an end and the Thunder Moon grew toward the full, vegetation formed a shaded canopy over the trails that radiated from the chuck den. With the camouflage of broken shadows to hide them from prying eyes, the young began to explore. Each expedition increased their confidence. The exposed sunning mound was still a resting spot.

The redtails fledged their young and left the nesting tree for more productive hunting grounds along the edge of the upper swamps. This left the woodchucks comparatively free of harassment from the air.

Each morning Monax left his mother and litter mate to venture down the slope toward the lake. Monax had outstripped the other in size and vigor. The excess of vitality made him adventuresome and led him quite beyond his normal territory.

Beside the brook and along the bay grew pungent watercress. Jewel weed grew rank on an abandoned beaver house. Bergamot lifted its minty leaves and scarlet flowers along the damp margins. The hummingbird came often to sip nectar from the flowers and buzz wispishly about Monax's head. The openings among the trees were carpeted with succulent vegetation. Monax, now almost grown to adult size, wandered about this range at



MONAX EMERGED FROM the briar-concealed opening and looked around. His fears were justified by the sight of the vixen crouched behind the den.

will, feeding until he could hold no more.

A few yards up the slope a heavy rock shouldered its way above the grass. The preceding year another chuck had found the slope and settled down. It excavated galleries under the protecting fortress of the rock and lived at ease. Only the mound of earth lay open to the sun and as the animal accumulated fat against the winter cold it spent more and more time drowsing there. It saw the fishing boats as they moved about the upper lake but regarded them with mild curiosity.

One day a fisherman spotted the den and its occupant. When next he brought his boat to that end of the lake a varmint rifle replaced the fishing rod. The long shot would challenge all his skill.

The chuck dozed on his mound. The cross hair settled and was still. The impact of the bullet lifted the unsuspecting animal and flung it against the rock.

Monax used the rock and sunning mound each day but returned to the companionship of the home den each night. He investigated the unused galleries and found a hidden doorway shadowed by a clump of briars. He

relined the nest chamber with dry grass and occasionally made it his retreat when danger threatened or the heat became oppressive. He too became accustomed to the boats and fishermen.

Instinctive Retreat

One day as Monax lay on the mound one of the foxes moved about the meadow below the den. He backed into the mouth of the burrow until only his head was above ground. Finally the fox moved on. Monax felt the urge to leave his sanctuary and resume feeding but some instinct caused him to retreat instead. Finally he emerged from the briar-concealed opening and looked around. His fears were justified by the sight of the vixen crouched above and behind the den. Had he not heeded his instinct, he would have been caught. Just as he was about to creep away there came a sodden splat, followed by the sharp crack of a rifle. The vixen thrashed about and then was still. He saw the boat on the shore of the bay. A man walked up the slope.

Monax felt stark terror take command. He fled away to return no more.

The home den did not hold him long. The restlessness of the season set him wandering again. This time his litter mate followed. He found, beyond the swamp, a timbered slope that faced the south. He began to burrow experimentally in several locations, but for some unknown reason was dissatisfied. His companion chose

one of these unfinished dens and settled down to finish the excavation.

High on the slope an ancient pine had fallen. Its upturned roots had heaved a mound of earth. There Monax began to dig. He scooped a nesting chamber far below the line of deepest frost. A second gallery slanted up and opened beside the decaying trunk.

As the days grew shorter a hint of frost was in the air. The urgency to put on fat dictated longer feeding hours. Occasionally Monax and his litter mate met and fed together, but more often each one fed alone. They foraged after the sun had gone and sometimes did not go below until the dusk.

An early hunting owl swooped low one night and almost caught Monax by surprise. The talons raked his flank but failed to hold. With a whistle of alarm, he dove below. The sound reached the female as she fed. She sat up to investigate. The owl was over her. Too late she turned toward her burrow.

A pair of ravens left their nesting cliffs along the escarpment and drifted down to their winter hunting grounds along the lake. Only the sunning mound was visible, swept bare of fallen leaves. They circled to investigate. Only a scrap of grizzled hide and bits of broken bones remained. . . .

Deep underground Monax slept, unmindful of the cold and drifting snows. Of the litter there was only one. . . .

GAME NEWS Price Increased

An increase in the price of GAME NEWS was approved at the October meeting of the Pennsylvania Game Commission. Effective July 1, 1971, subscription prices for the magazine will be \$2 for one year, \$4 for two years and \$5 for three years. Single copy price will be 25 cents. Subscriptions at the current price of \$1.50 per year or \$4 for three years will be accepted, to a maximum of three years, through June 30, 1971.



Snakebite and the Hunter

By William B. Allen, Jr.

PENNSYLVANIA, over the past few years, has broadened and expanded its seasons for various types of hunting. The small game season usually opens about the middle of October, while the archery season on deer sometimes begins in late September. And for the past several years there has been a spring season for turkey gobblers in early May. These seasons, along with hunting for foxes, woodchucks, etc., often coincide with another special season.

The season I refer to is one commanded by Mother Nature and not the Game Commission. This is when snakes come out of hibernation in the spring and when they congregate prior to hibernation in the fall. In Pennsylvania, snakes usually emerge from their winter sleep in late April or early May, depending upon the weather conditions. This is a prime time for the turkey hunter to step on a rattler or even a pile of them as he sneaks along

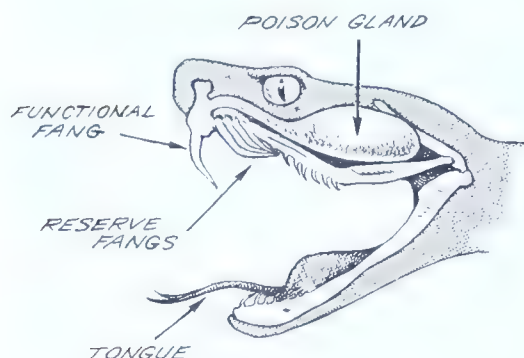
a rocky ridge in his quest for the gobbler.

The archer and early small game hunter in the fall is just as apt to come across them in the same place, as they gather for hibernation, while he seeks his deer, grouse or squirrel.

Rocky areas where snakes are found are referred to as dens. In most cases, a den is simply a rocky ledge on the crest of a hill or a hillside covered with loose rock of assorted sizes. Certain areas within the confines of such rocks provide suitable places for snakes to go below ground with adequate protection from extreme heat and cold.

These dens almost always face south. This creates the dry type of area that snakes prefer and possibly need for survival. On these hillsides, huckleberry, scrub oak and laurel are predominant. The huckleberry attracts the small rodents and birds upon which the snakes feed, while all three

plants provide cover from the heat of the summer sun. Since a snake is cold-blooded it cannot adapt itself to exposure to extreme temperatures, either hot or cold. It therefore has to seek out an area that provides a comfortable temperature for its body requirements.



*BITING APPARATUS OF
A PIT VIPER*

In late May and early June snakes leave the den; not all of them, but a great many. They crawl to the bottomlands where food, water and shelter will be plentiful during the summer months. Some snakes prefer to stay in the den, or nearby, as long as food and water are available. An extremely dry summer will move the snakes out much farther from the den than they usually go.

Copperheads do not seem to be out in numbers as early as the timber rattlesnake. While rattlesnakes can be found in good numbers in early May, copperheads are not found in abundance until the muggy weather in June and July.

The massasauga or swamp rattlesnake is the third and last species of poisonous snake found in Pennsylvania. It is fairly rare, having been recorded from only six western counties of the state — Allegheny, Butler, Crawford, Lawrence, Mercer and Venango.

The massasauga is a resident of the marshy bottomlands. It can be found out of hibernation earlier than the

other two, even up to a month sooner.

All three of these snakes, the timber rattlesnake, copperhead and massasauga, are poisonous and should be respected, regardless of their size. The massasauga is small but its venom is highly toxic. The copperhead is the least toxic of the three.

The bite of a venomous snake can cause complications that could result in the loss of a limb or perhaps even death. With modern medicines and up-to-date methods of treating snakebite, deaths are few. Each year, according to medical reports, there are approximately 6600 cases of venomous snakebite in the United States. Of this number only 15 to 20 are fatal.

Resemble Hypodermic

The fangs of Pennsylvania's poisonous snakes work on the same principle as a hypodermic syringe. The hollow fang represents the needle while the storage sacs symbolize the syringe barrel. Muscle action duplicates the plunger action which forces the venom from the sacs through the hollow fang into the puncture wound.

A person bitten by a venomous Pennsylvania snake normally has two puncture marks from the fangs. On occasion there will be only one puncture, as a fang may be broken off and not yet replaced, and on rare occasions there are two fang punctures on one side and one on the other, resulting from a third fang growing in before the previous one was lost. (They are automatically replaced every few weeks.) Poisonous snakes also have two rows of small teeth in the roof of the mouth, and two rows in the bottom jaw. There may be marks or scratches from these. When a venomous snake strikes through clothing, only the fang marks usually appear. Non-poisonous snakes have four rows of small teeth in the roof of the mouth and two rows in the lower jaw. They have no fangs.

A person struck by a rattler or copperhead usually begins to feel an intense burning pain in a short time;

this is followed by swelling and a purplish discoloration around the bite. Shock — dizziness, nausea, weakness and pallor—usually develop quickly, and there is a weak, fast pulse. The victim may faint. Sometimes this happens from fright even at the bite of a non-poisonous snake, but such bites do not cause the pain and swelling of the venomous ones.

The venoms of pit vipers such as rattlesnakes and copperheads are primarily hemotoxins—complex proteins that cause extensive tissue destruction near the bitten area, make the blood clot too much or not enough, and weaken the victim's resistance to infection. As they circulate through the body they dissolve red blood cells and attack blood vessels and internal organs, particularly the kidneys. For these reasons, the application of a tourniquet to slow the blood circulation is the first step in field treatment. If the victim can be transported to a doctor within a few minutes, a tourniquet alone is enough first-aid action. The snake should be killed and taken along, as knowing the exact species is an important guide to treatment.

First-Aid Procedure

The following first-aid procedure should be followed for rattlesnake or copperhead bites:

1. Apply tourniquet a few inches above bite on side toward heart; tighten until a finger can just be forced under it; do not tighten so much that pulse in affected part is stopped.

2. Keep victim calm, treat for shock.

3. Do not give stimulants such as whiskey, coffee or tea; this speeds up circulation of the venom through the blood system. Water may be drunk.

4. Do not let the victim exercise; he should be carried to the car, if possible, or walk slowly. He should never run.

5. Do not make deep cuts at bite. If incisions must be made, they should be X-shaped, about an inch apart, only about $\frac{1}{8}$ " deep and not over $\frac{1}{4}$ " long, performed with a sterilized (by anti-

septic or flame) blade. The object is not to induce bleeding but to bring the venom out with the lymph. One cut of the X-shaped incision should be parallel to the limb's length to minimize the danger to nerves and blood vessels. Apply suction to cuts for at least a half-hour and for 20 minutes of each following hour.

Some outdoorsmen who frequent areas where poisonous snakes are common carry anti-venin serum. It is debatable whether a non-medically trained person should attempt to use this serum himself. If the victim is allergic to horse serum, it can cause a painful sickness or in some cases can be immediately fatal. If you have serum, take it along to the doctor's, as he might not have any. Serum can be administered effectively as long as several hours after the bite. If it seems necessary to use it in the field, be certain to perform the tests described in the anti-venin literature first.

If these instructions can be followed, the patient has an excellent chance of recovery with a limited amount of pain and less chance of limb removal.

Now, had a few simple precautions been taken before going into snake country, chances of being bitten would

MASSASAUGA RATTLER, left, has large plates on top of head, while timber rattler's head, right, is covered with small scales.

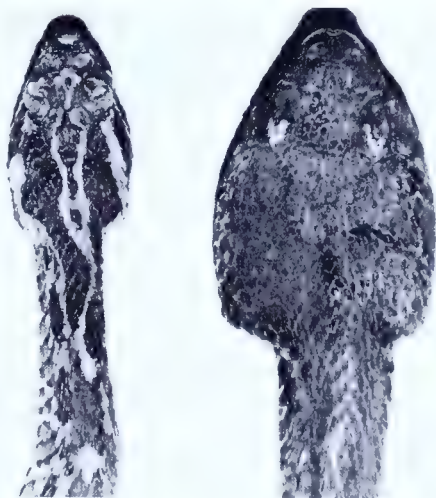




Photo by Karl Maslowski

CLOSEUP VIEW OF copperhead, Pennsylvania's only poisonous reptile outside of the rattlesnake. Note pit ahead of eye which gives pit vipers their name.

have been lessened—and this is the advisable approach.

No special clothing will prevent a snakebite if you are careless, but wearing heavy leather boots instead of sneakers will help greatly. And trousers hanging out over the boots instead of a cool pair of shorts with the bare flesh exposed for the fangs to sink into also help break a snake's strike.

Watch where you put your hands and feet when hiking. Look over a log or rock before you step, and look up on a ledge before you reach up to get a handhold to pull yourself up. It's in such situations and places that the snake has the advantage and you are most likely to be struck.

A rattlesnake will normally rattle before it strikes—probably because it is frightened—but don't depend on it. If your hand or foot moves quickly beside the snake, it might strike instinctively without rattling. After all,

this is the only way that the snake has of defending itself.

A venomous snake does not always inject venom when it strikes. Or it may inject only a small amount because it has recently used some of its supply elsewhere. This condition, termed the degree of venenation, has been rated as follows in regard to anti-venin use:

Grade 0 requires no anti-venin, meaning that no venom was injected into the bite. Grade 1 may require only 10 ml of anti-venin, while Grades 2 and 3 may require from 30 to 100 ml of anti-venin. For such reasons it obviously is best to let the physician attend to all injections, if one can be reached. In all probability the doctor also will use antibiotics and tetanus toxoids to combat any pathogenic organisms harbored in the snake's mouth.

Study Snakes

If you hunt or fish or even just like to hike, it is wise to learn a little about snakes, especially the poisonous ones that you might encounter while in the woods in a specific area. Several good pocket-size books on the subject are available. One of the best is Roger Conant's *Field Guide to the Reptiles and Amphibians of Eastern North America*, published by the Houghton-Mifflin Company, Boston. This book has many colored plates for identification of not only snakes but also turtles, lizards, frogs, salamanders and toads.

When traveling in snake country it is advisable to carry a snakebite kit. These come in many shapes and sizes. Most are smaller than a package of cigarettes. One can be carried comfortably in a shirt pocket—and should be. It won't do any good to buy one and leave it in the car or back at camp when you do go out in the field.

Longer Seasons

In many states, because of scientific management of game species, hunting seasons are longer and bag limits are higher than they have been for years.



Photo From Bureau of Sports Fisheries and Wildlife

ALTHOUGH THEY ARE LISTED AS "casuals," common egrets are annual visitors to certain areas of Pennsylvania.

Rare Visitors

By Tom Fegely

THROUGHOUT the course of a year, millions of birds cross Pennsylvania's borders in their migratory travels. Many others spend their entire life within the state's boundaries as permanent residents of our woodlands, marshes, fields and backyards. Occasionally, ornithologists or amateur bird-watchers sight unfamiliar feathered visitors whose presence in our state is indeed rare and noteworthy.

I still vividly recall the rainy spring night in 1949 when a loon mistook for water the reflections on a slick street in the small village of Limeport where I grew up. After leading a dozen men on a merry chase up and down the street and through a small creek, it was captured and turned over to the local Deputy Game Protector. Word spread rapidly of this strange visitor and gave the townspeople something to talk about for several weeks. Since that night I have been fortunate

enough to see and photograph a few of these rare guests.

For the past five years a male European widgeon has been wintering with a flock of baldpates (American widgeons) on Lake Muhlenberg, less than a mile from center-city Allentown. Recorded sporadically in other counties, the European widgeon breeds across Northern Europe and Asia but never has been recorded nesting in the New World. In appearance he differs from his American cousin in having a chestnut head and neck, gray back and buff crown.

SGL Yields "Casual"

While turkey hunting on State Game Lands near Francis Walter Dam in Carbon County last fall, I was amused by a small flock of chickadees doing their acrobatics in an open field at the edge of the forest where I was seated. As they worked closer one caught my



BROWN-CAPPED chickadee, top, American avocet, middle, and European widgeon are seen occasionally in Pennsylvania—the chickadee more often than the other two.

eye because of its brown “derby” as compared to the black cap of the others. Fortunately he posed less than 10 feet away and I snapped his portrait using my telephoto lens.

This was the boreal or brown-capped chickadee, sometimes known as the Hudsonian chickadee. A resident of the endless northern coniferous regions of Canada and Alaska, he occasionally wanders into Northern Pennsylvania and has even been seen as far south as Maryland.

Smaller Casuals

Smaller “casuals” often pass through the state unnoticed due to their inconspicuous size or coloration. The large sandhill crane, however, occasionally strays eastward from its Mississippi River valley migration route during the spring. Sightings of this impressive gray bird have been made in Chester, Crawford, Cumberland, Greene, Lancaster, Lehigh and Perry Counties. A smaller cousin of the endangered whooping crane (which made infrequent appearances in Pennsylvania in the mid-1800s), the sandhill crane is tall and gray with a bright-red crown. The sandhill has been affected by the drainage and pollution of our swamps and marshes and is seldom seen away from its southern United States home. When sighted in the Keystone State it is most often recorded along rivers and swampy bottomlands. Other winged rarities such as the white pelican, purple gallinule, clapper rail, common, reddish and snowy egrets, and various rare ducks, geese, herons, gulls and terns have been sighted within Pennsylvania’s borders.

Pennsylvania Birdlife (Leo Luttringer, Jr., Pennsylvania Game Commission, Harrisburg, sixth ed., 1970, \$1) lists over 80 species of casuals that have definitely been recorded in our state. If complete records from all counties were combined and brought up to date the number would probably be well over a hundred.

Birds whose visits to various sections of the Commonwealth are so rare



THE SANDHILL CRANE is the largest "casual" to visit Pennsylvania. A cousin to the whooping crane, it is abundant in our Southwest.

that only one or two sightings have ever been made are known as "accidentals." These come our way most often through storms or other natural phenomena that throw them off course during migrations and disorient them.

Last fall a flock of 20 Beebee parrots spent several weeks near Bethlehem in Northampton County. The November, 1969, *GAME NEWS* listed a South American vulture as having been captured in Westmoreland County. Other accidentals that have crossed our borders include the Western grebe (Erie, Westmoreland and York Counties), a Kermadec petrel in 1959 at Hawk Mountain, a magnificent frigatebird (1956, Westmoreland County), the American avocet and wood ibis (stork). Occasionally, zoo escapees and birds purposely introduced establish themselves as rare residents, as has the black-billed magpie in some southwestern counties. Accidentals are considered as being the rarest of the rare among birds.

Each year reports emerge and spread among amateur birders and professional ornithologists concerning new species seen throughout the state. Flamingos have been sighted on the

Susquehanna, Oregon juncos in Lehigh County, Bohemian waxwings in Wayne County, pine grosbeaks in Carbon County, blue grosbeaks in Crawford County and snowy egrets on the Pymatuning.

An Outdoor Treat

It is a treat for an outdoor enthusiast to sight a new species. If you should spot an accidental or casual, study it closely. By tradition, ornithologists accept sight records only if a specimen has been previously taken in the state and only from a reliable source. Reporting rare visitors to a local bird club or university along with other significant information may result in verification if the bird remains in the area for any length of time. Having a camera and telephoto lens may also result in positive identification.

Most rare sightings are made by people who know what to look for and spend considerable time afield. Discovering a casual or accidental during a weekend outing is a bonus atop the enjoyment of sighting a few of the 400 or so species of birds which fly across the skies of the Keystone State.



NOISE!

By Eugene R. Slatick

YOU ARE IN the woods, perhaps quietly watching a deer trail or trying to see a bird that flitted behind a branch, or maybe you are just walking along enjoying nature. The wind rustles the treetops. A few trees sway creakingly, and leaves shuffle across the ground as crows call from afar. The sounds are soothing and old.

Then a jet plane screams overhead, or a motorcycle roars along a nearby highway, or a radio blares from a campground down the trail. And once again you are reminded that the world is becoming noisier.

Not very long ago those sounds, and many like them, would have been heralds of progress. The things that produced them were to be marveled at. But today their sounds are being considered more as nuisances than as signs of progress. More and more, noise is gaining status as a pollutant.

Noise isn't new. It has accompanied man through history. The technologic

progress that is making life easier for us is also making it noisier. The growing noisiness is annoying, and evidence is accumulating that it is also harmful.

The fact that prolonged exposure to loud noise can produce a permanent hearing loss has been known for about a century. Short blasts of noise can temporarily deaden the sensitive cells of the ear. Loud blasts can destroy many of them. A steady exposure to loud noise can cause the cells to deteriorate, with a resulting loss of some hearing. Our hearing ability decreases naturally with age, but noise speeds up the process.

Medical investigators have found that noise can be dangerous in other ways. It can, for example, cause a variety of changes in the body's physiological makeup—in the functioning of the heart, the various glands, the nerves. High noise levels can make some persons irritable, fatigued, or even cause changes in their person-

ality. Some persons are particularly sensitive to loud noise; for them, it can be excruciating.

As is common in medical research, many of the effects of noise were first noticed in experiments on laboratory animals. They alerted the researchers to the potential dangers to man. Interestingly, preliminary studies made by scientists of the U. S. Department of Agriculture reveal that farm animals generally don't seem to suffer long-lasting effects from loud noise. The scientists report, however, that loud noises can cause ranch-bred mink, which are excitable animals, to kill their young, apparently unintentionally, in an effort to protect or hide them. They also found that a steady exposure to noise can make the mink's mammary glands harden, causing the young to die because they are unable to nurse.

Our ears are bombarded by all kinds of noises—from aircraft, buses, cars, trains, factories, machinery, even kitchen appliances. In a government survey made in urban and suburban areas of Los Angeles, Boston, and New York, the most bothersome kind of noises people complained about were “neighbor-generated noises,” the kind caused by neighbors, children, and animals. Next was traffic noise. A house can also be a noisy place at times.

Not All Dangerous

All noises aren't dangerous, of course. Some are mainly bothersome. Paradoxically, those that are potentially harmful often don't seem to bother certain persons. When and where a noise is heard makes a difference. The sound of a dog barking at night might give its owner a feeling of security, but it can easily grate on the nerves of neighbors even though the sound level isn't very high. By contrast, the din of a rock and roll band often reaches dangerously high levels, but the audience doesn't seem to mind even though they could suffer a loss of some hearing.

Noise levels, and sounds in general, are commonly measured in units called decibels. These can be compared to degrees on a thermometer. The scale goes from zero to over a hundred. It tells us the loudness of various sounds, just as the thermometer tells us the temperature. Measurements can be made for various tones. The measurement system commonly used for human response is the “A” scale; it places emphasis on the higher-pitched tones, which are considered the most annoying. Other systems include the “C” scale, which is not as selective, and techniques that take into account the way people react to noise.

Relative Loudness

For every rise of 10 decibels, the relative loudness increases 10 times. So, conversation (60 decibels) is 10,000 times louder than rustling leaves (20 decibels). And a rock and roll band playing at its loudest (120 decibels) is 1,000,000 times louder than a conversation. You can adjust to sounds of up to 120 decibels, but you'll lose the ability to hear soft sounds. Any sound above 85 decibels is considered potentially harmful, particularly if it is heard for a long time.

Scientists have found that during the 1954-67 period the general level of noise has risen four to nine decibels, and that the peak noise level has



THE SOUND OF A dog barking at night might give its owner a feeling of security, but it can easily grate on the nerves of neighbors.

jumped by 16 decibels. The street traffic noise level in large cities reportedly has risen a decibel a year over the past 35 years, and the noise level near some airports has doubled in the past 10 years. This means that many youngsters probably haven't experienced the relatively quieter environment their parents grew up in.



A QUIET VACUUM cleaner was manufactured but women reportedly wouldn't buy it. They wanted to hear the *whoosh* which indicated power!

Some persons drown out the cacophony of jets, auto horns, and the hustle and bustle of a busy place by making their own noise. They create a relatively loud, but not intrusive, background sound so that any loud noise becomes less noticeable. Background music is a familiar example, although that isn't its only purpose. Small waterfalls have been built in the lobbies of some large buildings with the idea that the sound of falling water will block out the city noise.

A certain amount of low-level background noise is natural and even desired. But medical men say that this type of fight against loud noise doesn't

get at the root of the problem. They claim that it is of questionable value because although you may not notice the loud noise, your body does and it reacts accordingly.

Are rising noise levels the price we have to pay for progress? The answer is no. Architects say that a lot of noise can be reduced by designing buildings—even cities—so that noise is subdued or kept out. Engineers have proven that machinery and engines can be made quieter. Since May of 1969, factories with government contracts have been required by law to operate within certain noise level limitations.

So, the answer to reducing the amount of noise in the environment seems rather simple: Let the architects design quieter places to live, and let the engineers build quieter machinery and engines.

No Simple Answer

But that answer is too simple. For, like it or not, we have to realize that we live in a big marketplace. Quieter products will have to come from the manufacturers. And they are unlikely to make them until there is a market—until the public gets concerned enough over noise reduction to demand quieter products.

Quieter products probably will also be a little more expensive to make, at least at the beginning, and the extra cost will most likely be passed on to the customer. Will he pay the higher cost? That's what the manufacturer wonders. There have been too many cases when the very people who clamored for certain pollution control measures refused to go along with the solution because it would cost them money or would in some way be an inconvenience.

Two reports illustrate a situation regarding quieter products: A vacuum cleaner was designed to operate very quietly—it wouldn't sell because housewives wanted to hear the *whoosh*, which they felt somehow made the cleaner more powerful. A quiet typewriter was developed—it didn't sell

because it didn't seem as fast as an identical but noisy model.

These are the types of predicaments that probably will continue to hinder efforts to make this a quieter world. We can just attribute them to man's tendency to equate noise with power or quality—and to act illogically at times.

But the fact that we are recognizing that noise has to be kept down is an encouraging step in finding solutions. The 1970s are acclaimed as the beginning of "environmental management." Hopefully, this means that problems relating to the environment will be handled intelligently rather than emotionally, and that the gaps between scientists, conservationists, and businessmen will become smaller.

Turning back to quieter times, we come across a saying of the Nanticoke Indians: A ringing noise in the ear, called "death bells," announces the demise of a relative or friend. We can rephrase that to say that a loud noise in our ears signifies the wearing away of the quality of life.

FOR FURTHER READING

Noise—Sound Without Value. Committee on Environmental Quality of the Federal Council for Science and Technology. U. S. Government Printing Office, Washington, D. C., 1968.

Noise in Urban and Suburban Areas: Results of Field Studies. U. S. Department of Housing and Urban Development. U. S. Government Printing Office, Washington, D. C., 1967.

"It's Time to Turn Down All That Noise," by John M. Mecklin. *Fortune*, October, 1969.

"How Today's Noise Hurts Body and Mind," *Medical World News*, June 13, 1969.

Decibels	
140	Threshold of Pain
130	Large Pneumatic Riveter (4 ft.)
120	Loud Thunder; Loud Rock and Roll Band 4-Engine Jet Overhead (500 ft.) Auto Horn (3 ft.)
110	Loud Motorcycle; Construction Noise Loud Power Mower; Loud Outboard Motor
100	Rock and Roll Band Heavy Truck (20 ft.) Food Blender
90	10-HP Outboard Motor Heavy Traffic (25-50 ft.)
80	Garbage Disposal Unit; Ringing Alarm Clock (2 ft.) Shout (3 ft.) Autos (20 ft.)
70	Vacuum Cleaner (10 ft.) Average Traffic (100 ft.) Dishwasher; Department Store
60	Conversational Speech (3 ft.) Window Air Conditioner Noisy Kitchen
50	Average Office Light Traffic (100 ft.) Average Residence
40	
30	Very Soft Music
20	Rustling Leaves Soft Whisper (5 ft.)
10	Hearing Threshold
0	

Figures in parentheses are the distances from the sound. (Compiled from several sources.)

\$7 Million for Sportsmen's Programs

The Bureau of Sport Fisheries and Wildlife is completing plans to assist state fish and game departments with programs to benefit America's hunters and shooters. The funds for the new programs will come from the handgun excise tax and will be made available to the states for wildlife restoration, new hunter safety programs and shooting range construction. These funds used to go into general revenue but were made available for sportsmen's programs with the passage of the Dingell-Hart bill in late 1970. The bureau estimates that the annual receipts from the tax will be as much as \$7 million.



THREE WESTMARK MODELS by Western Cutlery show considerable variation in blade style but all have full-size handles for safety and control.

carrying one of these ancient monstrosities!

All too many of today's hunters venture afield, secure in the knowledge that they're well equipped, knife-wise, if they're carrying the largest blade they can find, dull though it may be! Size is no criterion by which to judge a knife, and I know many seasoned big game hunters who never carry a sheath knife, but rely on a pocketknife for field-dressing their game. Certainly, there are instances where a long blade is of value, but as often as not, it's more of a hindrance than a help.

First, let's forget the "Bowie" type knife as a hunting blade and go to some of the styles that are of real value to a big game hunter.

The first of these is a sticker. This

Knives for Big Game Hunters

By Gene West

NEXT ONLY TO his rifle in line of importance to a woodsman and hunter is his knife, yet it never ceases to amaze me how many will head for the hills armed with as fine a rifle as they can afford, yet they give no real thought to the knife that they're carrying. These knives may be dull, rusty, totally unsuited for the task at hand, and more often than not, they're far bigger than they need to be.

In my collection is a flintlock rifleman's long knife, complete with a stag handle, which sports a blade just over 11½ inches long. I wince every time I think of our forefathers using such a sword of a knife, made of poor steel and poorly sharpened, for all of their day-to-day tasks, yet every hunting season you see all too many of today's hunters carrying a knife that has them just as ill-prepared as if they were

design has a quite thin blade of from four to six inches, and its primary function is for bleeding out game. Actually, it also works quite well for field-dressing the smaller big game, and it makes an excellent small game and fish knife. I have carried one off and on for years, and on game up to and including deer, find it an acceptable belt knife, though I really see little need for one. With the high velocity rifles and good controlled expansion bullets used by most hunters today, game taken is usually well bled out by the time the hunter gets to it, and I feel that sticking an animal is unnecessary, though many persist in doing it. As I said, this design of knife will suffice for field-dressing, but there are far better ones for that task, so I can't really, for the big game hunter, recommend a sticking knife.

Another specialized blade, yet one that is extremely handy, is the skinner. Just the opposite of the thin, straight-bladed sticker, the skinner usually will have a fairly heavy, well curved blade designed strictly for skinning. It can also be used for fleshing skins, once they have been removed from the game. Some skimmers will serve moderately well for general field usage, but other styles are better suited so the skimmers are not recommended for routine use.

Another specialized one, used less by most hunters than the previously mentioned two, is the caper. This is a small knife, designed strictly for working in close quarters caping out heads. Like the others, it may be made to do double duty and serve for field-dressing or, conceivably, even skinning. However, unless you plan to cape out your trophy heads for mounting, it's an unnecessary item for the hunter to carry, though it is handy to have one in camp, just in case you should collect that once-in-a-lifetime head.

Now, picture if you will, a knife that is a combination of all three mentioned above, but especially of the sticker and skinner, and you'll get to the so-called all-around hunting knife. Some argue that, just as there is no all-around rifle, there is no all-around knife, and when it comes to caping a head, I'll agree that you're far better off with a blade designed specifically for the purpose. But for field-dressing, skinning, possibly on occasion sticking, and even for cutting up the carcass for the freezer, there are on the market today a number of excellent all-around knives.

To qualify for this honor a blade should have a point sharp enough for sticking, should the occasion arise. As to points, there are two distinct schools of thought: one prefers a point that turns up slightly, while others prefer one that drops. Each has merits, and I'm not going to try to alter your thinking either way. I slightly favor the drop point, as with it, it's easier to split the belly skin on an animal with-

out ripping or snagging the intestines. The blade should be heavy and sturdy enough to open the brisket, split the pelvis, and cut off the legs without too much difficulty. It should be well enough curved to peel off the skin without poking holes in it. The blade should be no longer than six inches, and 4½-5½ inches is better. This length is not uncomfortable or unwieldy on the belt. It's short enough to work handily in cutting the diaphragm and removing the entrails and it's handy for skinning, yet it's large enough to perform any and all other tasks normally expected of it.

Good Steel Needed

To do a creditable job in the field, the blade should be of good steel, considerably harder and better tempered than are many of the less expensive knives on the market today. Our better ones, especially those from the custom knife makers, test from 55 to 60 on the Rockwell C scale. I won't go into a discussion on metallurgy, but the higher this number, the harder the steel. Anything under about 55C tends to be too soft to hold a good edge, and 60C is about the practical limit for hardness, though a few of the makers have, at least experimentally, gone as hard as 64C or 65C. However, for an all-around hunting knife, 57C or 58C is probably about the best. Most blades are made from high carbon steel, though there is a growing trend toward stainless steel, and it seems to be entirely satisfactory.

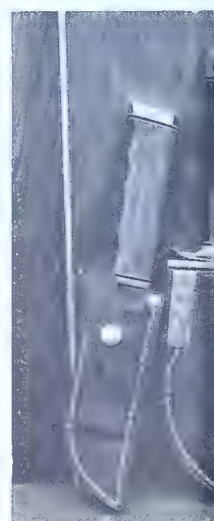
Handle materials are many and varied. I personally don't care for the leather washer type which was so common a few years ago. Many far superior materials are on the market today. Stag is always good—especially the antlers from the sambar deer of India. Ebony is often used, though it is prone to cracking and checking, as is ivory. Many woods work remarkably well, particularly when impregnated with resin, which makes them virtually impervious to wear or damage. Rosewood is good, as are coco-bolo,



KNIVES BY GERBER, Flintlock and Ka-bar, left; Bone, Randall, Dan-D, Randall, and Bone, above; and Seguire, right.



SHEATHED KNIVES BY WESTMARK and Fischer, above left; Indian Ridge, Gerber and Western Cutlery, center; Fischer's YO Hunter model, right. Below, Buck skinner and caper, Fischer's Texas Hunter and YO Special, Indian Ridge's folding knife, and Seguire's Wolf and Taku models in standard and Cam-Lock sheaths.



lignum vitae, osage orange, Texas mesquite and tigerwood. Gerber, on their "Legendary" blades, use an aluminum handle, and it seems entirely satisfactory.

A good sheath is an absolute necessity for both safety and convenience in carrying. It should be of top-quality, heavy leather, well oiled, and preferably riveted as well as stitched. The thong or restraining strap should be positive in that it will well secure the knife and eliminate any possibility of loss, yet it must be one that will allow you to remove the knife quickly and with a minimum of effort. Alaskan knifemaker Merle Seguire has recently patented his "Cam-Lock" design, which is as good as any I've ever seen.

Pocketknives, clasp knives, or folding knives will work well for quick jobs of field-dressing, provided they're of good quality and well sharpened, but I won't recommend any unless it's made with a positive lock to keep the blade open. While splitting the belly skin on a bear, I once had a folding knife close up on me, cutting my fingers quite severely, so care must be exercised with them.

For sharpening a knife, I heartily recommend a soft Arkansas stone. A. G. Russell of Fayetteville, Ark., supplies his Arkansas Soft Washita stone, Buck Knives, Inc., puts out an Arkansas stone, and Gerber markets both soft and hard Arkansas stones. While the hard Arkansas stone is good, I feel that the soft is better. All of these companies put out fairly detailed instructions with their stones telling how to properly sharpen a knife, and if they are followed, you'll be pleasantly surprised to see how easily you can put a real edge on that blade.

From the Ralph Bone Knife Company come these instructions for knife care:

1. Do not use a knife as a screwdriver.
2. Do not use a knife as a pry bar.
3. Do not use a knife for digging.
4. Do not cut metal of any kind with a knife you prize.

Give

GAME NEWS

To a Friend . . .

5. Do not store your knife for long periods in its sheath.

6. Do keep the blade clean and lightly oiled.

7. Do keep your knives sharp.

8. Do treat your knife with respect at all times.

I'd like to go a step further along this line and heartily recommend that you buy the best knife you can possibly afford. As with most anything else, you get what you pay for, and a good knife will be a thing of joy and beauty, as well as affording a lifetime of good, dependable service. Get a good Arkansas stone too. They cost more than many other kinds, but they're well worth it. Then take care of the knife as specified in Bone's instructions, and I'm sure you'll be more than pleased with it.

Addresses of Knifemakers Mentioned

The Ralph Bone Knife Co., 806 Avenue J, Lubbock, Texas 79401

Buck Knives, Inc., 1717 North Magnolia, El Cajon, Calif. 92021

Dan Dennehy (Dan-D), Box 4479, Yuma, Ariz. 85364

Fischer Custom Knives, R. 1, Box 170-M, Victoria, Texas 77901

Gerber Knives, 14200 S.W. 72nd Street, Portland, Ore. 99223

Indian Ridge Traders, P. O. Box X-50, Ferndale, Mich. 48220

W. D. Randall, Box 1988, Orlando, Fla. 32802

A. G. Russell, P. O. Box 474, Fayetteville, Ark. 72701

M. W. Seguire, P. O. Box 989, Juneau, Alaska 99801

D. W. Stone Knives, 703 Floyd Road, Richardson, Texas 75080

Western Cutlery, 5311 Western Avenue, Boulder, Colo. 80302



***Here Are Some Opinions on How to Improve the
Quality of the Bird Dogs in Your Kennel . . .***

The Key *Experience on Birds*

By Nick Sisley

THE MOST glaring reason for poor to mediocre bird dogs is lack of experience on birds. Many dog owners simply don't do enough training or hunting with their dogs. I know some of these people. They keep dogs year round and use them four or five days a year—the only time they can find away from business, work, or wife! These people are sometimes the first to complain about the breeder if the dog doesn't have perfect bird manners after lying in his box for 10 months. Such people may not even take their dogs out during training season.

Another group of ardent hunters still don't get all they can out of their dogs. These are the ones who keep *too many* dogs. Even hunting every

day, one man can find only so many dogs under natural conditions. Those that keep 10 to 15 dogs aren't getting each one out often enough. A fellow would do better to get rid of his less efficient dogs and concentrate on those that show the most promise.

How many animals a bird dog man should keep depends on the individual. That number should be regulated by the hours he can spend in the field, both in training and hunting season. I think it is best to run a gun dog several hours every day during the hunting season. Some men like to run a dog *all* day, then rest him a day or two while they run others. Not me. I feel that a dog that is run daily is more inclined to listen well and mind

his manners. Hunt a dog two to four hours a day every day of the season, and they are darn well glad to stop when you holler "Whoa." Rest them every other day or more often, and they may be so full of steam initially that you may have little or no control over them, especially young dogs. More importantly, if you try to hunt them all day long, a bird dog that has any run to him will be useless to you as his running time approaches four hours. Two hours is a good average to run bird dogs if you hunt every day.

How Many Dogs?

Back to how many dogs *you* should keep! Do you like to hunt with one dog, a brace, or more? If you hunt with companions, do they normally contribute a dog or more to the running, or do you supply all the dog power? Maybe you frequently hunt alone. One experienced friend likes to keep three dogs in his kennel: an old dog, one of middle age, and a pup coming on. As soon as he loses the old one, he replaces it with a new puppy. This has worked well for him through many years of gunning.

Naturally, there are factors that change the smoothness of this philosophy. This fellow buys from the best field trial stock, and he seldom has to cull out any worthless dogs. This is a good point to remember. Breeders are producing good dogs (not all champions, of course) with unbelievable regularity these days. More often it is the inexperienced trainer who ruins a properly bred bird dog. Practically any pup you buy from a qualified breeder will turn out to be a gun dog prospect. He'll have faults, but he'll get the job of finding and pointing birds done.

I can recall hunting grouse one day when a friend called point on my young setter. He's a good running dog, stylish on point, yet his fault of frequently running with a rather low tail precludes my using him in trials. But he gets the job done on grouse. We started in his direction when another



AN UNDERSTANDING wife not only will give tender loving care to puppies but her attitude can also let the husband get his dogs into the field regularly.

grouse flushed on my side of a fence-row. I snapped off a quick shot. I only winged the bird, and it started gaining in altitude. My setter saw all this from his pointing stance. He looked at me, then broke and started after the bird I had hit. I "whoaed" him briefly, then sent him on for a retrieve. After some difficulty, I managed to get the bird. I returned to my waiting companion, and we resumed our hunt in the direction we had been going. My setter went right back to the grapevine tangle and repointed the grouse he had originally. My compatriot bagged it.

He was amazed that a dog would leave point to make a retrieve, then have the common sense to come back to the original point. I must say I was a little proud of his accomplishment, too. I'm sure many of you come across similar unusual circumstances. But rarely do you come across them with a dog of limited experience. I relate the story because I feel the many hours the two of us have spent in the

grouse woods have definitely improved his ability to handle these birds, and he has acquired a certain amount of savvy. A dog hunted four or five times a year would never have done it. Leaving point at a field trial would, no doubt, put him out of judgment, but his action got us *both* birds!

Another friend once had a charging pointer who was sudden death to every grouse in his path. On several occasions he produced seven solid grouse points in an hour of hunting. Think he got out only every Saturday during the grouse season? Naturally he was hunted daily for years, with plenty of training season sessions thrown in, too.

If you are now hunting only one day a week, you want to hunt all of that day. A dog with any desire will not run well that long. Does that necessitate keeping two dogs to divvy up the running time? Perhaps, but unless you're an unusual individual, it means you won't get the most out of either one of them. Once a week is simply not enough exposure.



EXPERIENCED BIRD hunters take their dogs out often, even after the gunning season has ended. This maintains stamina, helps dogs keep their "edge" for handling game properly.

A better idea would be to arrange your work schedule so that you can hunt more often, for shorter periods of time. Then you can retain only the one dog (two, if you like to brace them), and he'll get the proper amount of work. Do you take one or more weeks of vacation to hunt birds locally? If you do, ask your employer if you can take the afternoon off for two weeks for each week of vacation you have. That way you can get your dogs out daily for three or four hours. With certain jobs this is impossible. But properly approached, I can visualize many employers who would jump at the chance for an arrangement like this.

Which Game Bird?

Perhaps you prefer to get away from it all at vacation time. If you do, the above is not recommended. There are many areas for bird hunters to travel for a week or more of fine hunting. The confines of this article will not permit specific recommendations. The best way to choose is to first decide which game bird you want to hunt, then research the best areas in reasonable proximity to your home. A solid week of hunting when you find plenty of birds does wonders for any bird dog—and especially puppies. But, you'll need more than one or two dogs if you are going to hunt all day, every day. Why not ask a dog-owning friend if he'd like to make the trip with you? If he can't perhaps he'd be glad to send his dog or dogs along—for the experience!

Another way to help your dog gain experience is with a professional trainer. It is rather expensive, but sometimes it is the only answer. Many professionals travel to the Canadian prairies to train dogs for several months in late summer and early fall. Most will take only topflight dogs that have a good chance of placing in major competition. However, there are trainers who go to the prairies with shooting and gun dogs. There are going to be more doing so in the future.

Find yourself such a man, and your dog can get an unbelievable amount of experience in a few months. That experience will come in the months just prior to your gunning season, too—an important consideration.

Don't forget local trainers. They have a definite place, and it isn't confined to training puppies. Let's say your dog has some experience on birds, you have trained him to a degree, but he needs some polishing touches. Why not send him to a local pro for a month before hunting season? If the dog knows what pointing, backing, and retrieving are all about, a professional can give him a good refresher course in a month's time. It will put the two of you in a better light, come opening day.

Here's another idea: Visit the manager of a nearby regulated shooting grounds. See if you can talk him into taking your dog to work with those hunters who use the facility without dogs. Arrange beforehand the days during the season when you will be taking the dog and using him for your own hunting pleasure. Remember that the open season on these areas usually runs for five or six months. Under the proper conditions, your dog can get bird training of a magnitude that would otherwise be impossible.

Providing experience on birds is the most important thing you can do to improve your dog's ability. It behooves you as his owner to make every effort to get out more often than you currently are. But you should also consider other ways and methods of getting him more experience. If you have only one bird dog now, and if he is not trained to razor-edge sharpness, don't purchase another. If you have a large kennel with no dogs completely



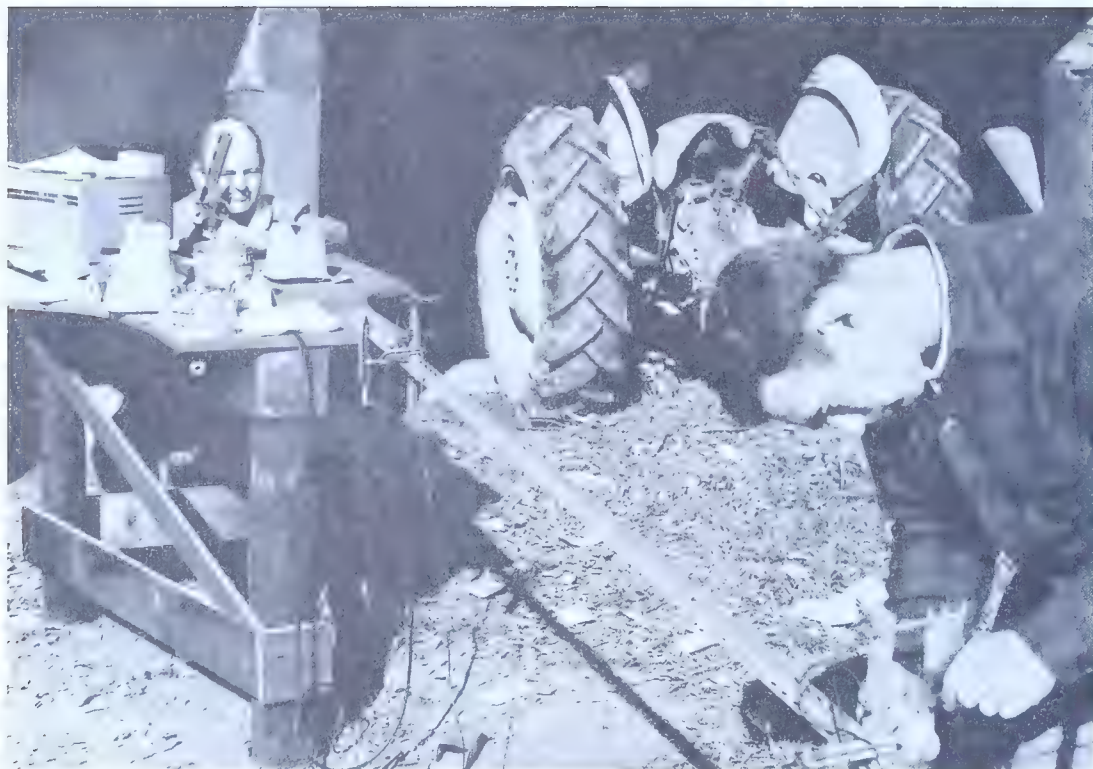
A BIRD IN THE BAG is the logical end result of a day's hunt, and for many Pennsylvania gunners a good dog is an integral part of the outing.

broken, you had better cut down on numbers.

For my purposes, I like four dogs, two males and two females. Never more, perhaps one less. I hunt every day possible, sometimes with a partner, but not always. I like to hunt with at least a brace. Most of the people I hunt with also have dogs. With less than three or four, I'm often relegated to dogs that are played out for most of their hunting hours. With more than four, each individual does not get the needed attention to properly finish him on game and retrain his edge.

Shooting Sports Growing

The shooting sports are among the fastest growing forms of employee recreation, according to Recreation Management magazine.



CHRONOGRAPH SCREENS should be held firmly to a rigid support, such as this steel angle iron clamped to shooting bench.

Handloaders Need Chronographs

By Edward M. Yard

HUNTERS ARE USUALLY handloaders, but not for reasons of economy alone. Expression is an important part of handloading and our hunters are not devoid of this creative instinct. Loading your own ammo offers you the chance to develop the full scope of your gun's potential. And you may do this in your own way because every component and factor are of your own choice. An almost infinite variety of loads is possible, and thus can be tailored to any need—something the factory can't do.

Those who write about handloads find that answers to load performance inquiries are often difficult. The infinity of combinations makes it so. We can give approximations of ballistics to be expected and can suggest loads to give probable results. Nobody can

tell you exactly what a particular load using your components will do when shot in your gun. This is something you will have to learn for yourself by making chronograph tests—and you should make them. The variables of

Ed Yard has for years been recognized as one of the country's foremost private experimenters in the ballistics field. Long before electronic chronographs became readily available, he was building his own, to get answers to questions which couldn't be answered accurately in any other way. He has written many articles for the nationally distributed firearms magazines. Here, he gives some basic suggestions for shooters just getting interested in the more serious side of their sport.—Ed.

ignition, properties of components, and characteristics of guns make it that way.

The hunter does need to know how his ammo performs. If it is a handload, as often is the case today, the more the need for testing to check just what it really delivers. Top loads run high in pressure if they beat out their factory brother. The only way Remchester delivers uniform ballistics at a specified maximum pressure is by continually testing and adjusting powder charges and so on to do this. The average shooter and hunter is seldom fully aware that factors he may take for granted can affect the performance of his ammunition seriously. Among these are:

1. The make and type of primer used in a reload. This can affect velocity by up to perhaps 15 percent.*

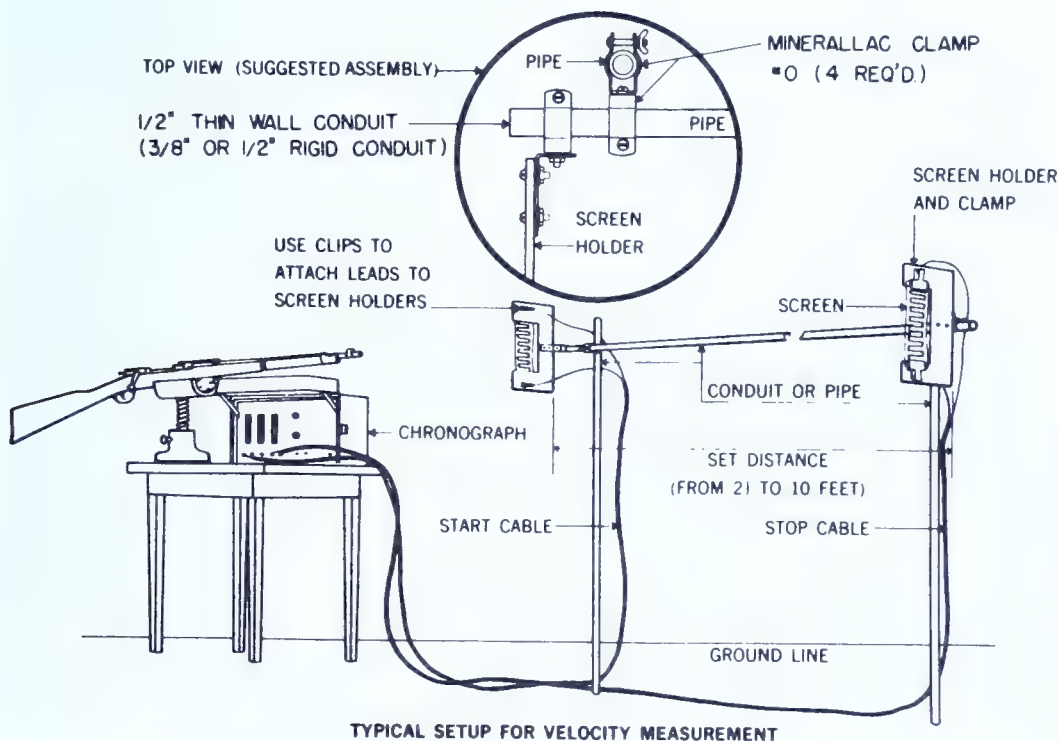
2. Primers in poor condition will give low velocity *and* hangfires that ruin accuracy and can be diagnosed only with the aid of a chronograph. They usually cannot be heard or felt.

3. The force of the firing pin blow can affect bullet velocity.

The hunter—any shooter—does need a way to find out just what his reloads are doing. This can't be done by casual observation. Without some form of evaluation or test, a load makes a noise and the gun kicks. All too often a shocking muzzle blast overwhelms remembrance of recoil. And while recoil is some indication of load performance, if it is measured scientifically as the momentum of the gun, few hunters will wish to tackle this chore. Practically, we must rule out kick and noise as a reliable way to judge reload performance.

The dependable method is to use a modern chronograph. Today these gadgets are reasonable in price, simple to use and very reliable. But only recently has this been the case. Just 15 years ago chronographs were for the

**Many shooters will find this difficult to believe, but consider this factual example: In the 44 Special revolver with a 240-gr. bullet and 16½-gr. H240 powder, average instrumental velocity with loads using Remington 2½ primers was 1038 feet per second (fps). With Winchester 111 primers, average velocity was 1178 fps, an increase of 13½ percent.*





CHRONOGRAPH SCREEN board with alligator clips holding a Hollywood tape in Yard's screen system. He often uses pencil leads for first screen.

sophisticated few science-oriented individuals—and it helped to be well heeled. Though reliable models now are readily available at moderate price, the average hunter won't want his own for checking limited handloading. But there are always some serious experimenters who want, and will have, a chronograph. Most other shooters can usually find one of these advanced reloaders who has a good chronograph and who will check handloads at reasonable cost. Such results can be just as accurate as expensive lab tests.

Chronographs available to the shooter now are easy to use and are reasonably free from calibration problems. The best ones, and they often cost no more than inferior systems, are crystal oscillator time base counter units. The oscillators are almost permanently accurate, to a small fraction of one percent under most conditions, and results are consistent. A significant difference in readings means a significant variation in the ammo tested. And that is exactly what chronographs are useful for. They will tell you when your handloads put out or don't. And they can also help to find out why the velocity is what it is.

First of all we have to understand what a chronograph does and then see why its data helps a reloader:

1. A chronograph measures and displays time and, in this ballistics use, elapsed time of a bullet moving between two fixed points.

2. The elapsed time for a bullet to fly between two points can be calculated to average velocity.

3. Bullet velocity is the principal determiner of its energy, which is an important indication of its effectiveness. Other things being equal, velocity is the most important factor of load performance. A bullet lying motionless is completely ineffective. If thrown vigorously it will move at about 150 fps and can break windows. Fired from a rifle, it can kill elephants.

4. Guns are useful only when they produce velocity in the 700 to 4250 fps range.

Ammunition used in any gun must give the selected bullet a suitable velocity if it is to be satisfactory for the hunting use intended. We are not saying that "high" velocity is required. And we are not advocating loading for the highest velocity (with attendant high pressure). For every cartridge and gun there is a range of velocities normal for each load. Your reloads should fall within this span.

Excellent Manuals

Excellent handloading manuals are published by well-known bullet manufacturers. These will explain reloading and contain useful data about components. They are primarily useful as a source of loading data for all common cartridges. Here you will find the normal range of velocities you may expect for these cartridges and suitable bullets and the powder charge required for it. Handbooks for handloaders are available from several sources. And load data is constantly carried by all of the better gun magazines. Advertisements and editorial items in these magazines will describe the books available.

If we have convinced you that the

velocity of your ammo is important to the point of being vital to the success of your hunting, then you will want to know how to use a chronograph for such tests. Checking bullet velocity is the main use of chronographs in amateur ballistics work. Measurement of bullet velocity is a routine matter today.

For those who may consider buying a chronograph because of the scope of their handloading, or for those who intend to use a chronograph service, some knowledge of the equipment and how it works is to the point. Even to those who only think about the topic there is an area for interest as to what they can do for practical shooters.

The best devices are digital (as opposed to meter indication) and are referred to as "counter chronographs with crystal oscillator time base." Such units electronically count the impulses of a crystal controlled oscillator (contained in them) while a bullet passes between two fixed points. It displays the count as lighted numbers representing a fraction of a second, commonly as so many hundred thousandths of a second. Some models count (and display) 400,000 thousandths of a second, others millionths of a second. The number displayed is the fraction of a second a bullet took to pass between the two fixed points.

Counter chronographs are almost universal in bullet velocity measurement today because of their accuracy and reliability. Their calibration is practically permanent, insuring continuing precision of better than 0.1 percent. They can easily be checked and can be recalibrated in the field without complex equipment.

Other Systems

Other instruments utilize less accurate and less reliable systems. One recently common method measured the charge built up on a condenser while the bullet passed through a measured distance. In another the angle between bullet holes in rotating discs a known distance apart was used

to figure velocity of the slug that punched them. Long ago bullets were fired into a pendulum and velocity was calculated from how far it swung. All this is obsolete, tedious, unreliable and not worth fooling with.

With any method of measuring the time the bullet takes to go a fixed distance, it must be detected at two points, the start and end of the distance. Since counter chronographs and the recent condenser types are electrical timers, a common "screen" has been a fragile electrical conductor which the bullet breaks. A bullet breaking an electric conductor is the same thing as opening a switch. Therefore, circuits are arranged to start the chronograph when a bullet breaks the start screen and stop it when the stop screen is broken. Such circuits are provided with each chronograph and vary somewhat from model to model. In every case the distance between screens is of utmost importance. It is the given "fixed" distance the bullet goes during the measured time. The distance between screens must be measured exactly and the screens must be immovable so that the spacing is constant for all tests.

The commonest fragile conductor type screen is a metallized line printed

AVTRON T973 is typical of the fine chronographs now available to handloaders at about the cost of a rifle. All give accurate answers to velocity questions.





GUN COLUMNIST Don Lewis uses a Herter chronograph to check velocities of both factory and handloads. Other things equal, consistent loads give best accuracy.

on a plastic film. Another type consists of a fine copper wire woven with a plastic wire. The writer uses fineline leads for mechanical pencils extensively and very successfully. Others have used strips of aluminum foil and a variety of wire grids. Screens must be supported in holders that make the electrical contact to them and position them accurately and firmly so that exact spacing is maintained. Holders are commonly made of masonite board and use alligator spring clips to hold screens and make contact. The clips are inexpensive to replace if hit by a bullet.

Photoelectric screens are generally used in industrial facilities for speed and convenience. They are expensive,

costing some three times as much as economical counter chronographs. They are not so easy to use, having malfunction tendencies that can tax the skill of an inexperienced user. Other means of detecting bullet passage are in use, such as magnetic coils, microphones and a conductor sandwich. These are seldom used by handloaders.

The inexperienced chronographer or his guest handloader will often believe that the velocity of one or two bullets (cartridges) will give a satisfactory answer about load performance. They feel that if the handload velocity is in the ball park of their expectation, that is all they care about. However, there is more to it than getting acceptable results. The most important factor is variation of velocity from round to round. More than a couple of shots are necessary to observe this.

Differences

Suppose a single cartridge is chronographed for 2500 fps, but a handloading manual shows 2650 fps for this load. Several things can account for such a difference. Some of these could spoil an expensive hunting trip. Even though the shooter may be satisfied with the 2500 fps, he should chronograph at least four more rounds, or five shots total, to determine if the velocity is uniform. If the five readings range from 2490 to 2530 fps, we can give that lot of ammo a tentative approval. Five more shots with the same range, say 2495 to 2540, would warrant accepting the lot as okay if this velocity suits the user.

However, if after that initial 2500, the next four go 2615, 2485, 2610 and 2600 fps, you had better find out why. This ammunition may have a serious fault. To an experienced eye, such results suggest poor ignition. It may be an incorrect primer for the load. It may be aging primers, or something else. Whatever it is, it should be corrected if the ammo is for an important use. Many a head of game is shot at short ranges with such stuff and killed with the first shot. But at longer ranges

the accuracy will be poor and you will be lucky to miss rather than get a badly placed hit. Some ammunition exhibits even wider spreads in velocity. Such lots are apt to give misfires and undoubtedly contain hangfires that completely destroy accuracy.

Normal velocity spread can go as high as 70 fps in five shots. Above this there is some doubt. Whenever the values clump into two value groups as above, there must be some lack of uniformity in the loading or the components. Find out what is wrong. At least check for long-range accuracy before using it for such shooting.

The age-old advice to sight in your gun carefully before taking to the field should today be coupled with the counsel to chronograph your ammunition to make sure of its quality and that it produces ballistics satisfactory

to you. Good handloads should have a spread of less than 60 fps. The same is true for factory stuff. And it normally checks very close to catalog value.

Twenty years ago such conditions would have gone unrecognized by handloaders and hunters. Chronographs then were few and ordinarily so tedious to use and unreliable that no one was doing the testing to discover such things. Today the excellent counter chronographs make its possible to give reloads meaningful inspection and to improve their quality. Poor ignition, a serious fault, is easily detected so that the reloader can correct it. Such chronograph testing will pay off in better accuracy and successful field performance. This is how the factory controls their quality—why not the handloader?

CHRONOGRAPHS FOR HANDLOADERS

<i>Make and Model</i>	<i>Power</i>	<i>Type and Frequency</i>
Oehler 10	3 D Batteries	Binary-Switch 400 KC
Oehler 20	12 V Lantern	Digital 400 KC or 1 MC
Avtron T973	6 V Lantern	Digital 100 KC
Avtron T333 A	12 V or 110	Digital 100 KC
Avtron T333 C	12 V or 110	Digital 100 KC
Reads to 1.0 Seconds and Can Use Photoelectric Screens		
B-Square	12 V Battery	Binary-Switch
Chronograph Specialists	6 V Battery	Decimal-Switch 500 KC
ITCC 245	6 V Battery	Binary-Switch 100 KC
ITCC 240	6 V Battery	Decimal-Switch 100 KC
Herter Mark VII	Battery or 110	Digital 100 KC
Techsonics 65	9 V Battery	Meter Reading FPS

PHOTOELECTRIC SCREENS

Oehler 50	110 V	12" x 12" Opening
Avtron K121	110 V	170 Sq. Ins.
Avtron K100	110 V	213 Sq. Ins.

Gun Accidents Decline

In the last 40 years, the *rate* of accidental firearms fatalities has been nearly cut in half, according to the National Safety Council.

Pennsylvania Pheasants

THE RING-NECKED pheasant is Pennsylvania's top game bird, with over a million bagged here annually. As all hunters know, he's a big, bold, gaudy gambler that often sits tight, never moving a feather, while the gunner passes within feet of him, betting his life that he'll go unobserved. But sometimes the dog is too good, the hunter too lucky, and he loses that bet. But even though downed, he lives on, a never-forgotten image in the hunter's memory.

Photos by Joe Osman







FIELD NOTES



A Problem of Timing, Jay!

MIFFLIN COUNTY — While buck hunting, Jay Krepps of Milroy saw three bears in Mifflin County. Not getting his buck, he decided to hunt antlerless deer with his father in the northern part of this county. Placing his father in a prime area, Jay started up the mountain to his selected site. As daylight appeared, so did eight deer. Selecting a deer in the open, Jay scoped it and saw a set of medium antlers. Moving the scope to the next visible deer he looked at a set of spikes. Nervously selecting the third visible deer, he was greeted by a large set of antlers. At this point Jay became "gunshy" and let the herd drift off. Settling back to relax, he heard a noise and eight turkeys strutted past him. This was too much, so he decided to move toward his father and try to run a deer his way. Soon a deer jumped from its bed in the laurel and ran. As it stopped he scoped a 4-point buck. This was all he could take for one day, and the rest of the antlerless season was spent recovering from "antleritis." No, he didn't get his deer.—District Game Protector J. D. Moyle, McVeytown.

Professional Help

YORK COUNTY—On Sunday, January 31, I received a call saying a deer was stranded on the ice at the Holtwood Dam on the Susquehanna River. I went there and found the ice a little shaky due to the rise and fall of the river. I started home for some help and equipment. On Route 372 near the bridge are some high cliffs which are covered by ice this time of year. Four men from near Washington, D. C., were practicing climbing on ice on the vertical cliffs. I stopped for a few minutes to watch and maybe learn something. When they learned why I was in the area, it only took a few minutes for them to gather their ropes and equipment and assist in rescuing the deer. I thanked the gentlemen for their assistance and received this reply: "Thank you for letting us help. We are all conservationists too." P.S. The temperature was 10 degrees with 15 to 20 mph winds—District Game Protector R. L. Yeakel, Red Lion.

Stubborn or Stupid?

LUZERNE COUNTY — I would have made it through the second year without a hunting accident in my district if those involved in the one minor accident this year had followed all the safety rules they learned at a Hunter Safety class. The injured party failed to keep in line with his companions and later said he does not believe in blaze orange clothing. He stated that he thinks bright clothing spooks game. The game being hunted that day—rabbits! —District Game Protector T. Vesloski, Wilkes-Barre.

The Easy Way

ROSS LEFFLER SCHOOL OF CONSERVATION—After receiving instructions in the aging of deer by examining their teeth for wear, eruption and replacement, I was reading my notes on the subject when one of my fellow trainees said to me, "Here, see if you can tell how old I am." I looked up from my notes to see him holding his teeth in his hand.—Trainee J. F. Ramsey.

What Kind of "Hunters" Are These?

UNION COUNTY—During the past small game season I received more than the usual number of complaints from landowners concerning unsportsmanlike acts by hunters. I'll relate one of the more serious ones. Tracey Phillips lives in Allenwood and owns land in Gregg Township. On November 21, 1970, at approximately 3:30 p.m., Mr. Phillips noticed three men hunting very close to his buildings. He asked if they wouldn't please stay farther away from the buildings while hunting. They moved away and Mr. Phillips returned home. Later a neighbor called him and asked him to go along to Turbotville. Mr. Phillips and his wife agreed. It was dark when they returned. Next morning when Mr. Phillips tended his pigs, housed in a building near where he had talked to the hunters, he found one of them dead, shot in the head, another bruised badly. Two days later the second pig died. A day or so later, Mr. and Mrs. Phillips had an appointment with the family doctor. Returning home, he found the entrails of a rabbit draped over his door knob and blood over much of the porch area. Needless to say, Mr. Phillips is quite angry and disgusted, and another block of land will be posted against hunting next year.—District Game Protector J. S. Shuler, Lewisburg.

Biologists—Now Hear This

WAYNE COUNTY — Wanted: A cross between a white-tailed deer and a beaver, the offspring of which would be a self-sustaining furbearing big game animal. The qualifications of this new species would be quite remarkable when one realizes that: 1. The beaver and deer seasons could be combined; 2. This animal could elude dogs by taking refuge in the water or under the ice or by fleeing at extreme speeds over the deep snow with its web feet; 3. Best of all this animal would be capable of cutting its own browse in winter, thereby saving thousands of dollars of sportsmen's money. In the interest of conservation, I ask the Division of Research to accept this challenge.—Land Manager W. R. Peoples, Hawley.



Just as Well

BRADFORD COUNTY—An ardent bird watcher has a new specimen at his bird feeder this winter. It looks like a member of the parrot family, with the heavy beak and conformation of body. It is larger than a parakeet but smaller than the conventional parrot. The bird is light green in color with a gray breast. No one has heard it talk as yet.—District Game Protector A. D. Rockwell, Sayre.



Wanderer

CRAWFORD COUNTY — Taxidermist Bill Vorisek of Linesville told me that Jeff Lucas of Sharon caught a medium-size male marten in Hickory Township, Mercer County. This is the first marten that I have heard of in Pennsylvania. They are not native to the state and this catch is creating quite a stir with the sportsmen of northwestern Pennsylvania. West Virginia has stocked some martens but it is highly unlikely that it would have come that far.—District Game Protector L. V. Haines, Linesville.

What HS Is All About

WYOMING COUNTY—Recently, I spoke with Warren Foust of Centre Hall about an event that took place the first day of the 1970 buck season. His daughter Sharon had a good opportunity to shoot her first buck, only to find that two other members of her party were in line with the deer. Sharon hated to pass up this opportunity, but remembering her Hunter Safety training, she knew that safety was foremost and that had she taken a shot at the deer she might have hit one of the others. Dad thanked me for the training she received and said that Hunter Safety training sure paid off.—District Game Protector A. J. Kriefski, Tunkhannock.

Help When It's Needed

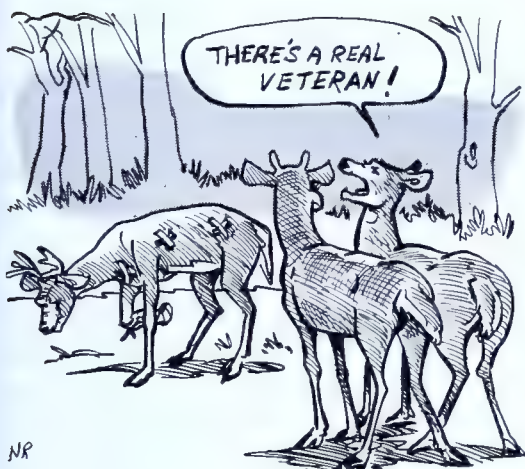
PERRY COUNTY—On January 10 I received a telephone call from an individual who saw the illegal killing of several ring-necked pheasants. The information was given to me as soon as possible after the violation was committed and resulted in the apprehension and successful prosecution of the individuals involved. All this was made possible because an individual saw something and wasn't afraid to get involved. Many thanks, not only from a Game Protector but also from the sportsmen, whose sport will be a little "cleaner" with the apprehension of people like this.—District Game Protector J. F. Serfass, Jr., Loysville.

Didn't Get the Word

WARREN COUNTY — We get numerous calls each hunting season to organize a search party to look for a lost hunter. During the past deer season, I was asked to look for an Ohio hunter lost in the Gordon Run area. So a group of local residents, hunters, deputies, etc., took up the search. Jack Moore, an employe of the Game Commission, and Dennis Nicholson, son of Deputy Jim Nicholson, worked up through Gordon Run and found the man sitting against a tree in the woods—sound asleep.—District Game Protector D. C. Parr, Tidioute.

Still Around

HUNTINGDON COUNTY — On January 28 while en route to State Game Lands 112 in Mill Creek Hollow, I had to stop my car while 32 deer crossed the road traveling from the mountain to the ridges. Later on I saw two more deer near the same area.—Land Manager W. H. Shaffer, Huntingdon.



Accident-Prone Whitetail

BLAIR COUNTY—Charles Nobel, of Altoona, is having a hard time explaining the deer he tagged. It appears that when he skinned it out it had an arrow in the brisket, and when served at a sportsmen's dinner, a 22 bullet was bitten into. The men at the club would like to know if he shot a deer that was on medicare.—District Game Protector P. R. Miller, Bellwood.

Read the Fine Print

LEHIGH COUNTY—Recently my wife and I had a discussion about the live creatures that come into the house. It came about because of a great horned owl with a bad wing that I had brought home, hoping it might heal. Unfortunately, the bird would not eat and was not doing very well. One evening, my wife went down the cellar steps to get something out of the freezer. As she rounded the corner, there sat the owl, all puffed up and hissing. My wife made two jumps and was back up the stairs and had the cellar door bolted until I got home. Apparently the owl had got out of its box and was wandering around on the cellar floor and took my wife quite by surprise. She said that keeping live birds and animals in the house was not in her contract when she said "I do."—District Game Protector J. R. Fagan, Allentown.

Real "Wildlife"

ROSS LEFFLER SCHOOL OF CONSERVATION—Looking over the pictures and books of the previous classes, I have noted the following Game Commission personnel, a "Thrush" and two "Badgers." The 14th class will produce a "Fox" to add to the list.—Trainee R. Edward Gosnell.

Talk Is Cheap

CARBON COUNTY—Each winter people get concerned about wildlife and what effect the hard weather conditions and snowmobiles are having on it. And each winter the problem of free roaming dogs is greatly increased, often in the area where some of these concerned people live. There are times when I can't help but wonder if these people are honestly concerned, or do they speak with a "forked tongue?"—District Game Protector C. E. Burkholder, Weatherly.

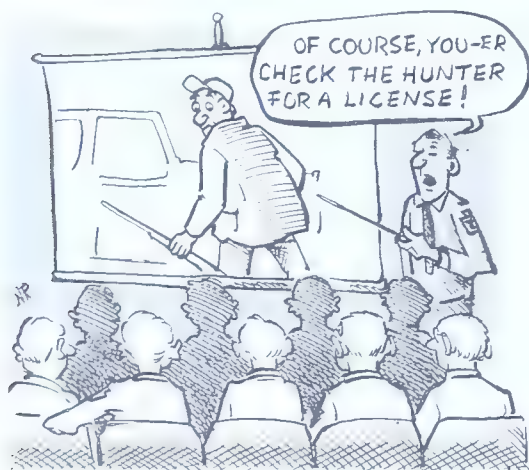


Deer Hunter's Definition

BEDFORD COUNTY—Generation gap—distance between father and son climbing mountain. (Who said that???)—District Game Protector T. C. Barney, Everett.

Makes 'Em Easier to See in Snow

CUMBERLAND COUNTY — Deputy John Plowman noticed several rabbit traps were missing from his porch the other day. Upon checking around the neighborhood, he found the culprit—an eight-year-old boy who apparently thought they ought to be painted black, because that's what the little fellow was in the process of doing.—District Game Protector J. P. Filkosky, Mechanicsburg.



Got the Proof on Film

ROSS LEFFLER SCHOOL OF CONSERVATION—During my field assignment in Elk County, Ralph Cady, Game Commission photographer, came by to get some footage of DGP Harshbarger and myself checking hunters and rosters. Mr. Cady is making a movie on how to become a Game Protector and with all the camps in the St. Marys area he thought it would be a good place to get some pictures. We enlisted the aid of a group of hunters that were using a Jeep as a base camp with the required roster on the window. Our well-staged drama turned into a comedy when, after checking their roster, I asked to see the captain's license. With the camera buzzing merrily, he turned around and—it seems he left his license back in camp! — Trainee George F. Mock.

Just Big Kids

CRAWFORD COUNTY — Game Protectors get many requests, but one I had recently was quite unusual. Two Ohio hunters apprehended for Game Law violations were detained for a short period of time to make arrangements for settlement of their cases. Nothing was thought unusual about this. But later the two hunters asked if I would write an excuse for them to show to their boss where they worked. It seems they needed a reason to explain why they were late for work that day. That was the second excuse I had written that day. My son needed one for school also.—District Game Protector L. V. Haines, Linesville.

Big Buck From Sugarloaf

LUZERNE COUNTY—Some sportsmen can't understand why the majority of the antlered deer harvested each year are 1½ years old. The answer is simple, for with the tremendous hunting pressure in our state, few deer live to old age. Occasionally, one matures to good size, as was the case this year when Walter Petrovich of Drums shot an 8-pointer in Sugarloaf Township which field-dressed at 190 pounds.—District Game Protector R. W. Nolf, Conyngham.

Later Than We Think

BUTLER COUNTY — Answering the telephone one evening, my wife said, "Intensive Care Unit," from force of habit, as she is head nurse on this particular unit in the Butler Hospital. There was a pause, then the voice at the other end of the line stated that he didn't realize that the pollution problem was so serious to wildlife.—District Game Protector J. D. Swigart, Butler.



CONSERVATION NEWS



By Ted Godshall

1970 Buck Harvest Is Sixth Highest

PENNSYLVANIA'S deer hunters recorded the sixth largest antlered deer harvest in history during the 1970-71 seasons, reports filed with the Game Commission show.

Cards returned by successful hunters showed 53,350 antlered deer were taken, while another 46,336 hunters reported taking antlerless deer. The total harvest was 99,686.

The most recent buck harvest was exceeded only in 1967, when the record 78,268 were tagged; in 1965, when hunters reported taking 65,150; in 1968, when 62,038 were bagged; in 1969, when 59,923 were taken; and in 1966, when 58,722 were harvested.

The antlerless deer harvest was the thirteenth largest on record, and the total harvest was the eleventh biggest since record-keeping began in 1915.

Of the nine largest buck harvests in the state's history, eight have occurred in the last eight years.

Bradford Top County

Bradford County, one of the better deer hunting areas over the years, led all counties in all categories of white-tail harvest during the most recent seasons. Hunters reported taking 2266 antlered deer and 2431 antlerless whitetails there, for a total harvest of 4697.

Other leading counties in total harvest were Clearfield, 3649; Lycoming, 3459; Potter, last year's leader, 3393; and Warren, 3385.

Following Bradford in antlered deer harvest were Lycoming, 1971; Clearfield, 1866; Huntingdon, 1830; and Warren, 1801.



STERLING TATE, of York, with his 11-point 165-lb. Adams County buck, wrote: "If this was a bad year, I cannot wait until a good one!"

Leading antlerless harvest counties, after Bradford, were Potter, 1790; Clearfield, 1783; Forest, 1722; and Tioga, 1676.

The buck total included 39,811 with three or more points and 13,539 spikes, while the antlerless figure included 37,942 females and 8394 males.

Resident hunters reported taking 46,464 bucks and 45,806 antlerless deer, while nonresidents reported tak-

ing 6886 bucks and 530 antlerless whitetails.

It is to be emphasized that all figures are based on reports filed by hunters. Surveys in the past have shown that only about three-quarters of the successful deer hunters report their kills as required by law in Pennsylvania.

There are complaints from hunters nearly every season about the alleged scarcity of deer, but during the past year the protests were louder and far more numerous than usual, starting last winter and continuing to the present. Throughout the period the Game Commission said there was an adequate supply of whitetails, although the deer population was down somewhat from the overabundance levels present since the mid-1960s.

The harvest figures indicate that the Commission's assessment of the situation might even have been on the

conservative side, and that charges made by individual hunters on the deer shortage based on their own experiences did not reflect an accurate overall picture.

When the Game Commission established its deer management program in 1957, the announced objective was to stabilize the herd at a level which would produce an annual antlered deer harvest of some 35,000 to 40,000 animals. This was the optimum number of bucks that the quantity and quality of the habitat could support. Hunters were satisfied, and felt that Utopia had arrived when the buck harvest hit the 40,000 mark.

Now that the take of antlered deer has "dropped" from the 59,000 to the 53,000 level in one year there are suddenly cries of alarm from some hunters. It is the position of the Game Commission that an overall crisis does not exist.

Buck Harvest Close in 1970, 1969

THINK THERE was a big shortage of deer last year? Not nearly as much as some hunters suspect. Report cards returned by hunters to the Pennsylvania Game Commission show how remarkably close the harvest was in both years, except for one region.

In 44 counties the 1970 buck harvest missed the mark for the previous year by less than 100. In another 11 counties, differences between the harvests in 1969 and 1970 were less than 200. In 10 counties the differences in harvests for the two years were less than 10. One county — Franklin — had the same number of bucks taken both years. The buck harvest *increased* in 31 counties.

The only variances in county buck harvests of real significance occurred in the northcentral part of the state. In Cameron, Centre, Clearfield, Elk, McKean, Potter and Tioga Counties there were decreases, but this was by design.

During the latter half of the 1960s, the whitetail population in these counties was much too high. The deer range in this area had been severely damaged by overbrowsing. Body size and antler development dropped off sharply. The general condition of the herd deteriorated markedly.

Of special importance was the decline in the reproductive rate. In some sections it required twice as many breeding females as it should have to produce "X" number of fawns. Twice as many deer meant twice as much food consumed and twice as much wear and tear on the range. Half as many well-fed females would produce as many fawns as "Y" number of undernourished does.

The answer to the problem was a reduction in the size of the deer herd, which can best be realized in Pennsylvania by increasing allocations of antlerless licenses. This was done and the deer population was reduced.

However, the Game Commission has warned over the years that when hunters are not removing whitetails quickly enough in cases of overpopulation, Mother Nature will do the job, ruthlessly and often unselectively. This is what happened one year ago.

Despite the planned high harvests to reduce deer numbers, the overwintering whitetail herd in the north-central part of the state still exceeded the carrying capacity of the range last winter, and thousands of deer starved. Had harvests been lower in preceding years, the winter loss would have been even greater.

Some sportsmen are demanding that the deer herd be permitted to expand as rapidly as possible through closing of antlerless seasons, protecting spike bucks, etc. Why? Is it desirable to have a much larger herd in the north-central area so many more deer can starve? The Game Commission thinks

that this is not an advisable goal. Obviously, some woodlots or ridges or townships could support more whitetails than are currently there. However, it is impossible to distribute the herd evenly throughout any county. Overall management objectives have been and are being attained.

Recovery of a deer range requires a period of many years. The whitetail herd can double in size in three years. Where there is sufficient food there will be adequate populations of deer. When the range has been over-utilized, whitetails should be limited until food conditions improve to the point where deer can be adequately supported.

Only an irresponsible deer management program would permit the herd to expand to the point where whitetails are starving by the thousands annually.

Here are buck harvest totals by county for 1969 and 1970:

ANTLERED DEER HARVESTS

<i>County</i>	<i>1970</i>	<i>1969</i>	<i>County</i>	<i>1970</i>	<i>1969</i>
Adams	252	307	Juniata	657	698
Allegheny	136	145	Lackawanna	369	443
Armstrong	832	689	Lancaster	218	175
Beaver	173	144	Lawrence	89	63
Bedford	1118	1027	Lebanon	270	304
Berks	534	522	Lehigh	148	112
Blair	670	831	Luzerne	1474	1508
Bradford	2266	2313	Lycoming	1971	2218
Bucks	524	432	McKean	1328	2098
Butler	746	650	Mercer	301	273
Cambria	764	897	Mifflin	662	691
Cameron	432	882	Monroe	814	851
Carbon	607	599	Montgomery	47	51
Centre	1466	1838	Montour	101	83
Chester	114	44	Northampton	200	190
Clarion	1135	1061	Northumberland	364	366
Clearfield	1866	2364	Perry	1231	1310
Clinton	937	1118	Pike	912	822
Columbia	1013	954	Potter	1603	3709
Crawford	730	680	Schuylkill	1077	1253
Cumberland	337	446	Snyder	355	347
Dauphin	610	640	Somerset	1229	1358
Delaware	8	5	Sullivan	1215	1554
Elk	1200	2006	Susquehanna	939	938
Erie	358	516	Tioga	1612	2359
Fayette	439	416	Union	329	321
Forest	1356	1672	Venango	1614	1256
Franklin	785	785	Warren	1801	1651
Fulton	573	558	Washington	301	269
Greene	347	310	Wayne	1118	1225
Huntingdon	1830	1933	Westmoreland	1096	1090
Indiana	1331	1241	Wyoming	470	495
Jefferson	1251	1198	York	386	391



CHARLES McDONNELL, JR., of Malvern, dropped 175-lb. 8-point in Pike County during 1970 season.



CRAIG PIERSON, 16, of Sheffield, and his 19"-spread 8-point bagged in Warren County this past season.

To All Interested Sportsmen

By **Glenn L. Bowers**
Executive Director

THE attached compilation of expenditures (see next page) vividly depicts the increased costs of operating the Game Commission's programs. Many of the increases are mandated—items which will continue upwards and about which we can do nothing. Many other increased costs are in accord with the wishes of sportsmen for more activity in certain phases of our operations.

We hope that changes in charges to various categories that have occurred during this period will not confuse you. Whereas prior to 1968 we paid retirement, Social Security and hospitalization through other Departments, we now pay them direct, hence the voids in some categories in some years.

A comparison of salaries and wages indicates the great increase in total expenditures for these items. For years the sportsmen have supported and pressed for better pay for Game Protectors. While pay scales have improved, we are still well below the desired level of pay equality with the State Trooper. Along with these in-

creases the costs of employee benefits go up accordingly; but benefits for state employees remain well below those afforded their personnel by private industry.

An additional area of interest by sportsmen for increased activity lies in land acquisition. Note the great increase in expenditures in that category. Again, an accompanying increase is in the category of payments in lieu of taxes. It appears these payments will rise in the future.

In addition to sportsmen asking for better pay for personnel and more land acquisition, you have asked for more land development and better maintenance, and that we try to avoid vacancies in the field Districts. Further, our radio system is over a dozen years old and will soon need substantial attention. There are opportunities for expansion of cooperative programs for keeping land open to hunting. All of these items cost real money as reflected in this expenditure compilation.

We are providing this information so that you understand our future needs.

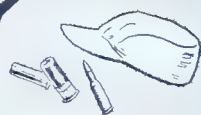
PENNSYLVANIA GAME COMMISSION CASH EXPENDITURES - PERIOD 1961-1970

	MAY 31 1961	JUNE 30 1962*	JUNE 30 1963	JUNE 30 1964	JUNE 30 1965	JUNE 30 1966	JUNE 30 1967	JUNE 30 1968	JUNE 30 1969	JUNE 30 1970
Salaries.....	\$1,612,936.	\$1,838,079.	\$1,786,405.	\$1,768,333.	\$1,798,333.	\$2,026,632.	\$2,160,623.	\$2,306,011.	\$2,451,924.	\$ 2,757,264.
Wages.....	1,313,441.	1,519,432.	1,263,014.	1,357,302.	1,722,539.	1,475,529.	1,452,405.	1,828,534.	1,942,445.	2,581,123.
Professional & Spec. Services.....	56,427.	78,952.	67,094.	87,575.	72,774.	83,579.	106,767.	149,371.	178,507.	218,123.
Employee Benefits.....	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	251,412.	551,638.
Printing.....	148,470.	143,771.	132,127.	153,551.	195,767.	194,070.	241,304.	272,348.	305,128.	340,102.
Advertising.....	12,200.	14,842.	11,436.	13,768.	13,782.	15,297.	20,775.	17,651.	21,378.	20,148.
Postage and Freight.....	34,256.	40,562.	41,814.	48,700.	47,738.	54,776.	64,857.	76,427.	107,592.	100,005.
Communications.....	48,797.	53,918.	47,912.	51,098.	55,285.	54,882.	59,675.	58,332.	67,800.	89,253.
Travel.....	442,886.	493,699.	482,205.	474,594.	485,247.	533,182.	527,380.	492,259.	365,678.	262,121.
Utilities and Fuel.....	33,317.	39,097.	33,652.	31,943.	34,193.	30,466.	31,536.	35,971.	37,904.	44,946.
Memberships, Dues & Subscrips.	-0-	-0-	-0-	-0-	-0-	809.	723.	2,062.	1,056.	3,175.
Ins., Surety & Fidelity Bonds.	23,505.	31,680.	14,853.	21,684.	26,596.	50,797.	49,316.	43,045.	15,664.	24,999.
M'td. Equip. Supplies & Reps.	142,135.	119,047.	116,865.	102,173.	105,396.	106,454.	117,818.	133,996.	233,985.	329,006.
Contracted Maint. & Repairs....	64,215.	103,879.	99,258.	96,756.	109,152.	99,165.	101,068.	167,535.	67,925.	111,469.
Rent of Real Estate.....	12,701.	9,986.	6,741.	6,741.	7,115.	6,284.	6,739.	5,908.	40,710.	46,080.
Rent of Equipment.....	53,003.	57,135.	30,322.	24,121.	62,653.	46,404.	33,335.	150,441.	136,181.	106,650.
Materials and Supplies.....	973,327.	640,746.	512,756.	487,970.	533,005.	465,589.	518,112.	526,718.	638,700.	749,280.
Wearing Apparel.....	-0-	4,660.	8,414.	3,458.	9,056.	25,326.	14,848.	32,909.	123,434.	35,168.
Motor Vehicles & Farm Equip....	317,804.	366,826.	91,740.	109,921.	262,264.	224,640.	296,021.	484,449.	691,557.	780,141.
Furniture and Fixtures.....	-0-	-0-	620.	2,471.	1,498.	1,401.	3,588.	12,732.	17,221.	15,155.
Purchase of Game.....	-0-	265,883.	235,681.	209,004.	190,491.	165,479.	128,983.	113,752.	106,224.	113,788.
Land Acquisition.....	343,787.	520,411.	378,252.	241,983.	341,990.	215,086.	383,614.	539,043.	970,739.	1,361,293.
Buildings and Structures.....	285,608.	119,873.	56,451.	-0-	6,934.	-0-	44,646.	678,114.	-0-	7,443.
Nonstructural Improvements....	-0-	6,627.	249.	5,615.	-0-	15,885.	50,098.	790.	108,212.	9,073.
Grants & Payments to Individs.	124,723.	126,595.	104,647.	120,426.	125,426.	114,152.	24,941.	9,943.	7,445.	10,595.
Grants to Institutions.....	7,000.	22,000.	19,845.	15,500.	25,000.	19,000.	22,000.	33,060.	37,446.	43,760.
Payments in-Lieu-of-Taxes.....	93,914.	94,253.	100,270.	97,861.	200,639.	200,027.	201,894.	205,347.	208,652.	214,180.
Refunds.....	998.	1,045.	1,112.	710.	281.	784.	1,686.	607.	3,875.	1,627.
Total Expenditures by Game Com	\$6,712,998.	\$5,647,354.	\$5,533,258.	\$6,433,134.	\$6,225,695.	\$6,664,752.	\$8,377,355.	\$9,138,794.	\$10,927,885.	
Expenditures by Other State Departments										
Dept. of Revenue - Licenses....	\$ 118,654.	\$ 86,882.	\$ 94,981.	\$ 90,910.	\$ 101,497.	\$ 113,278.	\$ 127,895.	\$ 150,619.	\$ 172,332.	
Dept. of State - Retirement...	98,669.	149,807.	184,795.	187,755.	191,826.	299,939.	258,075.	293,154.	-0-	
Dept. of Labor & Ind. - S. S..	79,924.	84,888.	87,707.	96,608.	110,035.	110,574.	151,296.	171,296.	2,430.	-0-
Dept. of P. & S.-Hospitalization	-0-	-0-	-0-	-0-	-0-	9,597.	16,766.	4,457.	-0-	
Dept. of F. & W.-Proj. 70 Taxes	-0-	-0-	-0-	-0-	-0-	3,815.	6,303.	2,768.	-0-	
Dept. of Treas. - Es. Checks...	-0-	300.	35.	15.	4,996.	664.	97.	-0-	-0-	
Total Expenditures by Other										
State Departments.....	\$ 297,247.	\$ 375,510.	\$ 324,696.	\$ 376,419.	\$ 388,715.	\$ 408,894.	\$ 578,901.	\$ 580,432.	\$ 453,428.	\$ 172,332.
Grand Total - Expenditures....	\$6,442,697.	\$7,088,508.	\$5,972,050.	\$5,909,677.	\$6,821,869.	\$6,634,588.	\$7,243,653.	\$8,957,787.	\$9,592,222.	\$11,100,217.

* Thirteen month period due to change in fiscal year from June 1 to July 1.

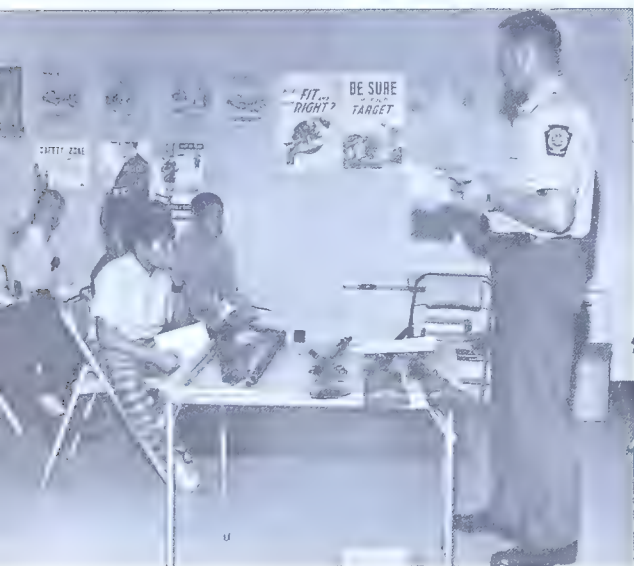


HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

Young Hunters Start Right



DGP JIM FILKOSKY discusses various types of firearms during Hunter Safety program set up by the Camp Hill Jaycees during October.

TODAY'S youngsters participating in hunter safety training are bright and interested. They pay attention and quickly call down an instructor when he attempts to cross them up, reports Bruce Whitman, sportswriter and hunter safety instructor in the Harrisburg area. Some of their questions and answers are gems. One boy recently explained "buck fever" as something that makes a man want to kill another buck after bagging his first. Another youngster asked if it was lawful to put a bayonet on a rifle or shotgun. He wanted to be ready if he was charged. Answers regarding the size of a newborn black bear have ranged as high as 100 pounds. They are very

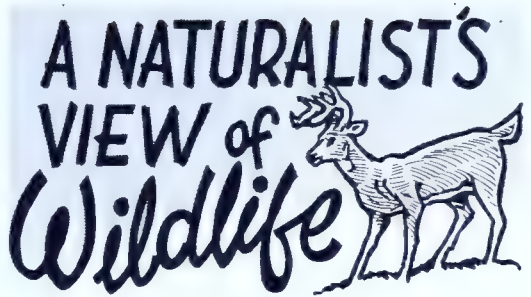
observant, as one boy pointed out to the instructor in a class of identification. The instructor asked the group to identify what they saw in the picture after explaining there were two things to look for. One boy explained, "I see three things, sir," and pointed out to the instructor for the first time there were three situations.

Sometimes the pattern of hunting is set by the parent or adult hunter, as one boy explained in landowner-sportsmen relations. On being encouraged to always ask permission to hunt, he responded, "My dad never does." After completion of hunter safety training, another young hunter wrote to the Game Commission expressing his appreciation for what he had learned and told how he now would be able to tell his dad what he was doing wrong.

A father attending a class with his son looked somewhat bothered that he had to attend a class of instruction on safe gun handling. After all, he was teaching his boy everything about hunter safety—or so he thought. After the class, he explained to the instructor that it was a good course and he really learned something also.

Larry Mummert, businessman and Deputy Game Protector, who teams up with Bruce Whitman, finds working with these youngsters rewarding and interesting. In fact, he is downright enthusiastic about it when he says, "We sure get involved, and all of us learn something every time we present a class. Parents, youngsters, and instructors get started right."

AS IS TRUE with any boy raised in a rural area, I had many encounters with rabbits. Perhaps I had more than most boys because my main interest has always been wildlife and I was in the fields and woodlands every chance I had. Then, too, our farm was a marginal one. Clean farming practices would have been impossible even if we had been so inclined. Parts of the fields were too steep to farm and these were a jungle of sumac and briars. All our fence-rows were brushy because we periodically cut out the large pieces for fire-



wood. Our farm may not have been the best for farming but it was one of the best for raising cottontail rabbits.

form throughout the state, as many variables affect it.

One thing seems sure—Pennsylvania's total cottontail harvest is go-

The Cottontail Rabbit- *Sylvilagus floridanus*

By Leonard Lee Rue, III

wood. Our farm may not have been the best for farming but it was one of the best for raising cottontail rabbits.

The area which became Pennsylvania did not have many cottontails when the first European settlers arrived for the basic reason that most of it was in a mature forest stage and cottontails are not forest animals. The incursion of settlers made a breach in the forest which was all the foothold the cottontail needed. Any species given suitable new territory, ideal habitat and plenty of food responds with a population explosion, and rabbits more than most. The area had had more varying hares than cottontails, but as the cottontails increased in number the hares decreased. The hares did not decrease because of the increased number of cottontails but because of the destruction of the hares' forest habitat to the benefit of the cottontail.

The cottontail population fluctuates in what some people call a cycle. This is not uniform throughout the country, and it may not even be uni-

ing to drop as years go by. The main reason for the decline will be the increased human population. More people means more homes will be needed, with the resultant destruction of cottontail habitat. A seeming contradiction is that suburban areas seem to have a higher rabbit population than surrounding farmlands. Many of them do because the lawns, hedges, rows and flower beds of suburbia are good rabbit habitats, even with a maze of streets and alleys and hordes of dogs and cats. As our human population increases our remaining farms become more efficient, which means the consolidation of many small fields into fewer larger ones. This allows the farmer to use bigger equipment but each fencerow that is bulldozed out destroys just that much cottontail habitat.

Despite the fact that Pennsylvania has had the foresight to reserve or to obtain huge acreages of land that will be held in perpetuity by the state as forest and game lands, the number of cottontails on much of that land will decline. This decline is a natural



one caused by the maturing of the forests, creating the same type of conditions that suppressed the cottontail before the coming of the European settlers. Many of the trees in Pennsylvania's state lands are in the pole stage or beyond and the leaf-shrouded forest floor does not provide either the food or shelter that the cottontail must have. These same conditions are detrimental to deer and ruffed grouse, too.

Pennsylvania's game managers are well aware of this problem and have proved that they can beat it. In Venango County on an area that has been extensively managed, the rabbit population was increased from one rabbit on 6.6 acres to one rabbit to one acre.

Only One Answer

When rabbit hunters come home empty-handed or are disappointed by a lack of game, they often demand fast action. Their outcry usually takes one of two forms. They either want to put a bounty on all predators or they want to stock imported rabbits. Vast sums of money have been wasted on both of these programs. Between 1915 and 1951, Pennsylvania released 1,427,317 cottontails—some bought from other states, some trapped, and some raised on game farms—and until recently various predators had a price on their heads. None of these programs did anything to increase the number of rabbits in Pennsylvania. There is only one answer to the problem — habitat improvement. Given ample food and cover, rabbits cannot be hunted out of an area nor can the predators wipe them out. After all, predators have been feeding on cottontails for some 60,000,000 years and haven't wiped them out yet.

The key to improved habitat is "edge." Rabbits need a goodly supply of grasses and legumes to feed upon, and patches of berry thickets, fence-rows and sumac clumps to provide shelter and additional food. The ideal situation is where approximately 10-foot wide patches of food are inter-

spersed with rows of woody plants every 100 feet or so. The creation of such areas is expensive, but where they exist the cottontail population is high. Fertilizing such areas also pays big dividends. The richer the soil, the more succulent are the plants, and the more numerous wildlife will be.

No one ever has doubted the cottontail's ability to fill a suitable area with more cottontails. In fact, the cottontail's ability to reproduce is legendary. A single pair of cottontail rabbits and their offspring have the potential to produce 350,000 rabbits over a five-year period. That cottontails do not exist in such astronomical numbers is due to their high mortality.

In the wild the cottontail population has a mortality rate of 80 to 85 percent from August until March. However, the remaining 15 to 20 percent is a normal breeding stock and is sufficient to populate all suitable habitat to capacity with cottontails. Late June or July is the time the population reaches its peak. From that peak, numbers decline steadily due to deaths by automobiles, predation, disease, hunting, etc. It is estimated that several million cottontails are killed or die in Pennsylvania just during the months of September and October—before the first rabbit hunter has even slipped a shell into his gun. But more rabbits can be hunted and more rabbits can be held over with habitat improvement.

Cottontails get started early on their role of repopulating suitable habitat. The breeding season begins in Pennsylvania in early spring. Three to four litters per year are average here. In warmer parts of the continent the season may start earlier and last longer. The gestation period is about 30 days. Contrary to the popular notion, cottontails do not dig rabbit holes. The female prior to giving birth will select some hidden or secluded spot where she will hollow out a saucer-sized depression in the earth which she will then line with fur plucked from her breast. The nest is covered with a

blanket composed of a mixture of such fur and dry grass.

When born, young rabbits are naked, about four inches long and weigh about one ounce each. Their eyes remain sealed for about one week, by which time they are well covered with fur. By the end of the second week the young are large enough to start leaving the nest and are being weaned. At three weeks the young are large enough to care for themselves and have broken all family ties. The female, having been bred on the same day that she gave birth to the first litter, is busy preparing a nest for her second litter.

When full grown a cottontail rabbit will measure between 14 and 19 inches from nose to tail tip and will stand six to seven inches high at the shoulder. Body weights will range from two to, on rare occasions, 3½ pounds, females being slightly larger than the males. The average is about 2½ pounds. Cottontails have a potential life span of three to four years but only a small fraction of the population ever approaches anything close to its potential. Few live a full year in the wild. In captivity, occasional cottontails have lived to 10 years.

A cottontail lives on a very restricted area and the better the habitat, the smaller the range. Having a

small range, the rabbit knows its area intimately. Some knowledge is the key to survival in a time of danger. In good weather, the rabbit will usually occupy a "form," a place of concealment hollowed out under a protective covering of grass or brush. In inclement or cold weather the rabbit will seek sanctuary inside a hollow log, beneath a rock or in the entrance to a woodchuck's burrow.

Although the cottontail is reputed to be a speedster, its top speed is only 18 to 20 miles per hour. The fact that the rabbit is usually bouncing around through a lot of underbrush where it is only momentarily glimpsed gives an impression of greater speed. Rabbits when pursued by dogs will circle, probably because they are at a disadvantage when pushed into strange territory.

Even more important to the rabbit than its running ability is the protective coloration of its fur. Sitting tight in its form the cottontail is often overlooked by those who seek it. And sought it is, not only by hawks, owls, foxes, bobcats, dogs, etc., but also by human hunters. Nevertheless, the cottontail rabbit can meet the challenges of all. It is not only the number one game species in Pennsylvania, it is the number one game animal in the United States.

Deer and Bear Measuring Dates and Sites

DATES and locations for the 1971 scoring sessions of white-tailed deer antlers and bear skulls from trophies taken in Pennsylvania are listed below. For complete rules governing the program, see the January GAME NEWS, page 39.

April 25: Huntingdon Division Office, 10 a.m. to 6 p.m.

May 2: Ligonier Division Office, 10 a.m. to 6 p.m.

May 15: Franklin Division Office, 10 a.m. to 6 p.m.

May 16: Franklin Division Office, 10 a.m. to 6 p.m.

Everyone who has a set of whitetail antlers or a bear skull taken according to the rules listed above is urged to bring his trophy in for scoring. Each owner receives a card showing his trophy's score. Full data on all measurements will be maintained at Game Commission headquarters, in a permanent file.

What About Self-Contained Campers?

By Les R. [unclear]



TENTS AND TRAILERS and all sorts of things that you attach or add on to the family bus are fine, but there is a growing group of campers who want to just get in the rig and go. No hooking or unhooking, no jockeying around for positioning the trailer in that tight camping slot, just go. As much as I like to camp in a tent, there is a lot to be said for the self-contained unit and those two words just about say it—self-contained. When you reach your destination there's not much left to do other than park it and start doing whatever it is you intend to do. Self-contained units, in general, mean three basic rigs: the pickup camper, the van and the motor home. I really should say, converted van, because to do much serious camping in one of the box type vans requires that an addition be built into the roof which allows some stand-up space.

The pickup camper is the most popular of the three because of its versatility. When the camper is not installed an extra vehicle is available that is in fact a truck. Of course, many people do not take the camper off, ever, and still use the outfit as a second car. If the camper is well suited to the chassis and does not overload it in any way this is not a real inconvenience. The

more powerful pickups that are available today cruise along as swiftly as a modern passenger car and do it with almost as much comfort. In case you haven't looked at a pickup lately, you'll be surprised to find out just how fancy they've become. In many models automatic transmission, power brakes and steering are standard and soft vinyl padded interiors are commonplace on all but the economy trucks. Air conditioning, stereo cassette outfits—you name it—can all be had at extra cost, of course.

With the vast array of floor plans offered in pickup campers, it's no wonder that the first-time buyer is often confused. Practically no one stays with their original purchase very long. It's not that it wears out . . . they simply discover that what they thought they wanted isn't what they wanted at all, or their family grows out of it. Some great buys are available on these secondhand units. Look them over carefully. With luck you might find just what you're looking for at a considerably reduced price. But if a new pickup camper is what you are interested in, assuming you already have the truck, take the whole family along to look the rig over. At least take everybody along that will be camping

in it. You can do this by running around from dealer to dealer, but the easiest and most pleasant way to see them all is at a rec-vee show (for those who don't know by now, rec-vee is short for recreational vehicle). Decide where everyone will sleep and see if the cook finds everything to his



PICKUP CAMPERS longer than the truck bed are feasible if properly supported at rear end, give considerably more room than standard models.

or her liking. If you find one that's almost perfect but has a closet or window somewhere that you don't care for, ask the dealer if some changes can be made. Certain design changes can be had on special order . . . although you'll have to wait for it.

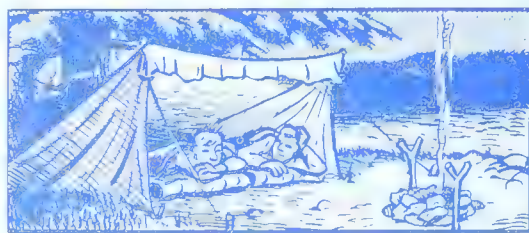
The standard pickup bed is eight feet long. Therefore, it has always made sense to me that a prospective buyer should consider a camper body that is also that length. No overhang at all is the ideal combination, from the truck's standpoint, but you can get by with a couple of extra feet if the chassis is reinforced to handle it. If you're buying a new truck specifically for recreation, by all means get one of the "Camper Specials." These are designed especially for campers and in most cases have the additional strength and heavy duty springs to handle the extra weight. Remember

that practically any camper body is heavier than the load that most pickups usually carry.

The pickup combination has the advantage of being able to cruise on the freeways at the same speeds as do most passenger cars, provided it is equipped with a V8 engine. For camper use the V8 should be the only engine considered. Three people can ride comfortably in the cab and a look-through hole can be rigged up for conversation between the cab passengers and those who are riding in the back. There is some concern about permitting small children to ride in the camper while Mom and Dad are up front. For this reason if small children are included in the camping party make sure that the rear door can be locked securely from the *outside*. This eliminates the chance of the door being accidentally opened.

The cost of a new pickup truck and camper to match comes somewhere between that of a van and a motor home. A truck with the usual accessories will cost about \$4000 and the camper between \$1200 and \$2000. That's a sizable piece of cash but if you have use for a second car and a pickup will fill the bill, the non-camping periods will subtract from the pure camping investment. And the way the new pickups are being finished off, I wouldn't be ashamed to drive one anywhere.

Some of the same versatility is offered by the camper van. This is especially true if the inside components can be unbolted or otherwise removed when the most recent trip is over. This may be a little unhandy in some cases, and for this reason the van obviously is not for everyone either. With more than one small child the van does not



offer much privacy for the adults. For a young married couple by themselves or with one child it may be the ideal choice. Retired couples, too, find the van a suitable touring vehicle. With the addition of the roof extension assembly, two bunks can be fitted handily, leaving ample room for stove, sink and storage. As with the pickup campers there is almost no end to the floor plans. As the van increases in popularity, the manufacturers seem to keep coming up with many new interior options. Many van owners prefer to build the interiors themselves, particularly if they want them to be removable. The vans also lend themselves conveniently to a tent awning arrangement or a complete extra fabric room that snaps tightly to the body. Again, take the campers that will be using the unit along on the shopping tour. Everyone get inside and check it out for comfort and space. For the person not used to driving with his nose on the windshield (which is the way most vans affect me) it will seem strange at first. The ride is considerably different from that of a pickup or sedan, since the front seats are right on top of the front wheels. The ride is a bit choppier but there is one definite over-the-road advantage—the overall height. The camper-equipped pickup and the motor homes are a bit top-heavy. Crosswinds and the suction created by a big semi wheeling by cause a little wobble. Vans seem considerably more stable.

Van Most Economical

Of all the self-contained units, the camper van is the most economical. They cost less originally and the operating costs are considerably lower. A van, complete with converter and V8 engine, should run between \$3500 and \$4300.

The big motor homes are the real dreamboats of the camping business. An extended tour, even semi-permanent living, can be handled nicely by these fancy rigs. While advertised prices start at under seven grand it's

darn hard to buy one for less than that. A reasonably equipped 20-footer will cost between \$15,000 and \$19,000. Some run much higher. This is not the outfit for the casual family camper. But if a motor home is within your budget, the same careful look inside is of the greatest importance. On the showroom floor they can all look very comfortable and exciting, but will they work out well for the people in your camping group? The regular automobile air conditioner, for example, will not work in one of these outfits. It's too small and a separate unit should be installed on the roof to take care of the whole interior and not just the driver's area.

The manufacturers will probably hate me for saying it, but there really are a lot of things that can go wrong on a big motor home. Heating units, refrigerators, holding tanks, and the dozen other mechanical features all need regular maintenance. In addition to the purchase price it will probably cost you at least \$500 for routine service during the course of a year. License fees will cost more, too, as much as \$300 in some states. Insurance costs should be checked into with your agent on all recreational vehicle purchases. Mileage? This is a tough nut,



CAMPER VANS ARE normally the most economical self-contained units, but don't have stand-up room—except for kids—unless roof is altered.



CAMPERS USING TODAY'S self-contained models travel and live in luxury compared to older aficionados who used tents only.

too. Even the smaller motor homes with moderately powerful engines seldom do better than seven miles per gallon. But if your family is large and you don't want to be bothered with pulling something behind, the motor home may be exactly what you need.

With horse races, elections and baseball teams, there has to be a difference of opinion or there wouldn't be any point in talking about them. Camping preferences, as well, are becoming more varied each year and there just isn't any fun in being dogmatic about it. I prefer the tent (I think) mostly because it was the kind of camping I grew up with. I readily confess however that there have been some rather damp nights when I would have gladly traded what I was sleeping in for anything that was on wheels. There have also been times when using a self-contained rig that I wanted to do a little side-tripping and didn't really want to

disturb the campsite. In situations like these, the tent or the trailer puller can simply drive off for the day and return to base camp that evening. The most important advantages of the self-contained unit are speed in getting there and setting up, complete protection from the elements, and convenience. The chief drawbacks are lack of mobility from the base camp, additional maintenance and higher original cost.

There is no real conclusion to be reached. I've spent some time in all three of the self-contained styles and there's something good about all of them. Pocketbook and personal preferences will determine how you camp, but I must admit there is a certain happy feeling in deciding on a Friday evening that this weekend would be a good time to head for Lake Wachamacallit . . . get in your van, or pickup camper or motor home . . . and just go!

3000 Places to Shoot

There are now more than 3000 public and private shooting preserves in the United States, according to the National Shooting Sports Foundation.



CALIFORNIAN BETSY ENGER instructs a group of men as **Bud Fowkes** unobtrusively observes at Stone Valley target tourney.

A Total in Teaching . . .

How to Hit the Target

By Keith C. Schuyler

Photos From the Author

EVERYTHING that you have read here about methods and styles of shooting the bow has emphasized one important point—when and where possible, get personal instruction. This can vary from advice from someone who can prove by his scores that he is better than you are, to formalized instruction under expert supervision. Obviously, the latter is much preferred for many reasons.

Consequently, this writer has been more than a little interested in archery instruction camps held for the purpose of turning out certified archery instructors under the National Archery Association label. Last year provided the first opportunity to sit in on one when the third such course was conducted at Stone Valley Recreation Area under the auspices of Pennsylvania State University near State College. Formerly held in the month of June, last year's school was conducted August 28 through September 5.

This made it possible for students to go only 10 miles after the school ended to attend the annual State Target Tournament on the Penn State campus. Rather than take somebody's word for it, I attended the school personally and sat in for 30 hours during the middle of the 64-hour session. This provided the chance to meet and study with the students during a concentrated course of instruction that barely permitted them to eat and sleep. Only I was permitted to take advantage of the adjoining 75-acre lake, and I paid my tuition with a couple of large-mouth bass before leaving.

Possibly the purpose of the entire program was best summed up by Julia Bowers, of Lancaster, who made the following statement when instructing a part of the class: "Get them shooting as soon as possible."

Certainly the 20 who were graduated from the school will be doing just that in future years, as the infor-



LINDA KATES, Pottstown, who teaches at Ursinus College, demonstrates the three-point anchor she uses for target shooting.

mation they absorbed is utilized in many areas throughout the United States, for students from California, Utah, Texas, Ohio, Indiana and New Jersey joined with the eight Pennsylvanians present in a common desire to improve personal ability for instructing current and future generations of archers. One man came from Quebec, Canada. In 1969, one student came to the school from Hawaii. It is relatively certain that this year's school will bring others in from many states as the word spreads. Although the Pennsylvania school is relatively young—it's entering its fourth year—those who have attended other such classes speak favorably of the Keystone course.

Oldest of schools in the United States is Teela-Wooket Archery Camp at Roxbury, Vt. Teela-Wooket was organized in 1937, and its program serves as a model for other schools. To receive certification from the National Archery Association naturally requires a high degree of performance and the Stone Valley Camp certainly goes far beyond any minimum of standard re-

quirements.

One of the first things that impressed this writer was the fact that these people assembled, not so much to improve their own shooting skills, but rather to improve their knowledge of archery and the teaching ability necessary to pass it along to others. Many of those present are already engaged in archery instruction at various schools and universities around the country. Those such as Maurice Borneau, of Quebec, are engaged in programs which will have a wide influence in their areas.

Top Instructors

Pennsylvania's school is conducted by the National Archery Association in the Recreation and Parks Department of Penn State University in cooperation with the American Camping Association, of State College, the American Red Cross and the Pennsylvania State Archery Association. For 1970, it had an impressive slate of instructors. George Ward, assistant director of the university's recreation area, served as a program coordinator and handled the physical layout at the camp. Last year, he was a student himself.

Mrs. Patricia Baier, a graduate of PSU's School of Health, Physical Education and Recreation, hails from Fort Washington. She is physical education instructor at Beaver College and Chestnut Hill College. She served as co-director of the NAA Certified Archery Instructor's Course. Mrs. Julia Bowers, of Lancaster, is physical education instructor at Millersville State College and served with Mrs. Baier as co-director in sharing the heavy schedule.

Dale M. Roth is assistant director of



Support Services at Stone Valley Recreation Area and has an important part in seeing that requirements for food and lodging are met. Bud Fowkes, Verona, also served as instructor. Fowkes is a member of the Pennsylvania State Archery Association Board of Governors and is now president of the state organization.

E. H. Braaten, an industrial engineer with archery as a hobby, lectures on the physical properties of archery tackle. John Major, primarily a field shooter, assists in bow hunting aspects of the overall training.

Husband and Wife Team

Among the students was a husband and wife team, Mr. and Mrs. J. W. Hosford, of Kerryville, Texas. Utah provided a father and son combination in Donald G. Thriot and Blaine, who hail from Coalville.

An interesting break in the routine was provided by Maurice Bruneau, of Charlesbourg, Quebec, Canada. When his turn came to conduct a class, Monsieur Bruneau first explained the procedures being covered in the Canadian-French language. He then followed through with a like explanation in excellent English.

In the session devoted to various archery games, Bruneau introduced a pastime enjoyed in Canada as a combination of ice skating and archery. It consists of shooting at a large, rubber ball with arrows carrying special blunts in an effort to drive it down the ice to a goal much as in ice hockey. The game was tried on the lawn at Stone Valley, but the general consensus was that the game is too risky for this adaptation.

Of special importance to Pennsylvania students is the course on archery safety. Those who are graduated from this school also are certified to teach safety courses to those who need to comply with requirements for a licensed hunt in Pennsylvania. This section is handled by John C. Behel, hunter safety coordinator of the Pennsylvania Game Commission and a cer-



GEORGE WARD, Dale Roth, Patricia Beyer, Julia Bowers, and Bud Fowkes discuss plans for the Archery Instruction School. The work of these and others made this program of great benefit to everyone who attended.

tified instructor for the National Rifle Association.

A certain amount of information would be certain to rub off in simple association with such as these. But a concentrated course of instruction like that given at Stone Valley must have more far-reaching effects. Students are enrolled in school 24 hours a day, and they are actively engaged in learning more than half of those hours. Only time for eating and sleeping is scheduled in between instruction and both oral and written examinations.

It was my privilege to be in both. I even took one of the written examinations. (Passed, too!)

A typical day starts after breakfast with a practical demonstration on the line by the instructors in how to teach by visual means. Students serve as a class of beginners for the purpose. Following this, each student then conducts a class of instruction patterned after that given by the teacher. This is just for practice. Later, each student is graded upon his ability to instruct in a manner which can be understood by those at the beginning level. Further on in the course, more advanced instruction is presented in the same

manner. No facet of archery is missed. Instruction is carried to the field range at Stone Valley as well as on the target line set up on the ample lawn adjacent to the main lodge.

Basically, the course starts with an orientation session with an explanation of free style and bare bow shooting. At this time each student is given an assignment and instruction in care of individual equipment to be used during the course. Safety is emphasized and is part of the daily instruction in addition to the course conducted by the Pennsylvania Game Commission in cooperation with the National Rifle Association. Regulations and rules pertaining to the use of archery facilities and other camp facilities are made available along with texts and the National Archery Association's Archer's Handbook.

Instruction in Teaching

The second session of the course relates to basic instruction in teaching. The approach here covers the need to relate to both small as well as large groups of students in teaching procedures. Also, attention is given to individual coaching. Both basic types of shooting, bare bow and free style, are covered.

So that no instructor is ever caught with his knowledge down, familiarization sessions are provided in shooting the clout, archery golf and the different types of rounds for both target and field.

In the lecture series, common faults and how to correct them are given emphasis. The science of archery is covered in its basic form so that graduates are able to pass along this information. Advanced coaching, tournament management, and school, camp and recreational archery as well as indoor lane shooting are covered. Safety is a continuing part of the lecture series.

Supervision and evaluation is given in group practice teaching as well as individual coaching for both beginner and intermediate level students. At-

tention is given to organizing and running an archery tournament.

A practical course in the maintenance of archery tackle is part of the program. Extensive facilities in the main building make possible instruction in the making of strings, preparation of arrows from the shaft to the finished product and an in-depth look at the various types of modern bows and their uses.

In the final evaluation and review before the last written examination, a number of facets get special emphasis. Importance of personality in a teaching situation as well as the individual instructor's own archery skill is covered. Actual shooting for a score is conducted to determine the level of competence for those who plan to teach others. Again, group practice teaching and individual coaching is taught in a manner which permits the graduate to disseminate the knowledge he has attained. The importance of communication between the instructor and the student is repeatedly stressed.

The written examination at the end of the week is given to ascertain what has been absorbed at the various sessions. In addition, each student must prepare a project for display which could be used as a basis for teaching some facet of the total sport.

Throughout the course there is frequent use of the term, "mimetics." The dictionary definition of this word refers to the imitative or make-believe character of such actions. In practice, they are a combination of both isometrics and charades. More simply, the practice can be defined as a dry run without the actual use of archery tackle. In this manner the student becomes accustomed to the physical procedures involved in handling and shooting the bow without the use of actual tackle, so that introduction of the equipment itself will quickly tie in with the simulated practice.

Particularly stressed in mimetics is an awareness of the muscles used in shooting the bow. Students become more conscious of physical stresses

when they go through the motions of "stand, nock, draw, anchor, secondary draw, release, and after-hold (follow through)," without archery tackle in their hands. The desire to excel is speeded by eagerness to get into actual shooting.

Introduction of electronics into the course provided a possible first in the annals of archery. Video tape replays were provided on the scene to help students with their own individual performance. A camera was focused upon the student during actual shooting. The instant replay provided an opportunity for the individual to pick out personal faults or evidence of excellence. In this manner each had an opportunity to see how a personal demonstration would appear to students when future classes are being conducted far from the site at Stone Valley.

Plans for Camera

Tentative plans have been made for the use of a high speed camera at this year's school. This camera, which takes pictures at the rate of 5000 per minute, will enable the individual to have graphic and permanent evidence of his ability or lack of it. Any imperfections can thus be ironed out in the continuing search for excellence. Both students and instructors have an unusual opportunity to utilize the facilities of a great university that has been archery oriented for many years. The entire staff constantly reviews the program with a view to improving upon it as well as introducing any new methods or equipment which can increase the knowledge and ability of those who take the course.

The entire cost for last year's program was \$85 for the week. (This year, \$95.) This included room, tents with concrete floors, board, registration, instruction and use of equipment and program materials. Minimum age for students is 17. Instrumental in setting up the original class was Clayton B. Shenk, executive secretary of the National Archery Association and the

The Game Law Violator Is Stealing From You!

Pennsylvania State Archery Association. Mr. Shenk lectured the group in an up-to-date review of modern archery and its organization as a part of the total curriculum.

Those wishing to avail themselves of the opportunity to attend the school this year can receive an application from Mr. Shenk, Box 306, Ronks, Pa. 17572, or George Ward, 261 Recreation Building, University Park, Pa. 16802.

There were 20 students at the 1970 school, and all were graduated. This is the first that there has been 100 percent success. However, the 1970 class consisted of students who were primarily preparing for teaching assignments at various schools around the country. Prior classes have included many who were preparing for summer camp teaching and did not have the same degree of previous experience enjoyed by those at the last session. As the level of training rises, it is possible that certificates will be given in the future based upon the level of attainment relative to probable teaching assignments for graduates.

Each school broadens experience of the staff in both teaching methods and in programming. For example, a glossary of archery terms, a seemingly incidental addition, is provided students so that all learn the language of the sport to avoid misunderstandings. To encourage continued learning beyond the school, a bibliography of archery books is provided each student.

It would appear that the experience gained in the past three sessions is certain to make the 1971 school even more valuable to those who attend. A common expression among all instructors is, "The best way to learn is to teach." If this can be accepted as a truism, there appears to be no doubt that Stone Valley will be turning out even better informed archery instructors this year.

Current plans are to hold the school

again at the same site during the week of June 19-26. Those planning to attend would do well to register early.

Stone Valley Recreation Area is somewhat remote but can be easily reached by taking Route 26 south out of State College. It is hoped that this year a small map can be drawn for registrants to facilitate finding the lovely valley that is fast becoming the biggest think factory for archers in America.

Book Review . . .

Two New Books for Grouse Hunters

For the hunter who fancies himself a grouse shooter, two books have recently hit the scene that are must reading. *Hunting the Ruffed Grouse* by Nick Sisley and *Grouse and Grouse Hunting* by Frank Woolner. Both deal with the same bird but the similarity ends there. The styles and writing are entirely different. Let's look at Sisley's book first. Here's a no nonsense introduction to a rough, tough hunting specialty. Sisley takes each phase of the grouse hunting game, says his piece about it and goes on to the next. Boots—he likes leather ones with Vibram soles and that is just about that! He likes to hunt grouse with pointing dogs and feels sorry for those unfortunates who don't have one. A 1½ ounce load of number 7½ shot is a grouse load and he doesn't have much time for anything else. When I was about halfway through *Hunting the Ruffed Grouse*, I found myself thinking, "For such a young man, he certainly is an opinionated one." But as the book wore on I discovered that I found myself agreeing with almost everything he said. A sizable portion of the book is devoted to training and handling grouse dogs, not for field trials but for hunting. This is good solid information and should be studied by anyone who is starting out with a new puppy that will be used primarily for grouse.

Frank Woolner's book offers a bit more hunting philosophy and more episodal passages. It is fun to read and it's most obvious that Woolner is in fact a grouse hunting purist. All other game birds are regarded as lesser species to be considered only when grouse hunting is not available. Not nearly so dogmatic as Sisley about guns, dogs and grouse hunting accoutrements, Woolner's style of hunting is somewhat more casual. It is surprising, however, that they agree on so many points. For example, Woolner likes a short auto-loading 12-gauge and Sisley likes the autoloader too. This is blasphemy to many old-time grouse hunters who don't even consider anything except a side by side Parker or Winchester 21 as being legal for use on grouse.

I'm not sure I should have reviewed either one of these books since I'm prejudiced from the start. I think the grouse is the greatest game bird in the world . . . and it's for sure that these two authors feel the same. If you've shot at more than one grouse on the wing you'll enjoy both of these books.

Hunting the Ruffed Grouse, by Nick Sisley, available from the author, RD 3, Box 2045, Apollo, Pa. 15613. Paperbound, 136 pp., \$3.50. *Grouse and Grouse Hunting*, by Frank Woolner, Crown Publishers, 419 Park Avenue South, New York City 10016, 1970. 186 pp., \$7.50.



SCOPES BUILT PRIMARILY FOR CHUCK shooting are usually of medium power—about 8X to 12X—and medium length, such as Weaver K10 shown here.

Some Thoughts on . . .

Choosing a Chuck Scope

By Don Lewis

Photos by Helen Lewis

I CAME UPON the hunter before I realized he was there. He hadn't seen me as he was getting set up to take a shot at a chuck across the valley. I had seen the chuck from the highway and had parked my car and made my way through a small patch of woods to this field. The evening shadows were gathering, but there was still plenty of good shooting light left. It was a 200-yard shot, and even though I was out of luck, I decided to hang around and watch.

The hunter was certainly methodical. He had a crossed-stick affair for a shooting rest, and he took plenty of time to get everything just right. As far as I was concerned, the chuck didn't have too much time left to enjoy the clover. When he finally got the rifle on the rest and began to aim, I concentrated my binoculars directly on

the chuck. It bolted into an upright position, and I almost yelled out loud for him to shoot. To my amazement, the chuck did this about three or four times, and the hunter still didn't fire. I took a quick look in his direction, and it was apparent he was having problems with his outfit. He put the rifle down, and began to watch the chuck through his binoculars. The hunter saw me just as he started to leave. I motioned for him to sit tight as I began to ease my way down to him. I handed him my rifle and a shell when I got there.

"Thanks just the same, friend, but the chuck took cover," he said. "Anyway, it's far too dark to see through a scope."

"By gollies, the chuck has gone," I answered as I looked across the valley. "But we might as well sit a spell. It



VARIABLE POWER scopes, in the 2-7X or 3-9X sizes, serve reasonably well for varmint shooting, are a top choice for big game too.

wasn't spooked too much, and there's lots of time left to shoot," I continued, ignoring his remark about the lack of light.

"Nice rifle you have," he said. "What kind is it?"

"A 25-06 Improved. It's a pretty decent outfit for chucks. That's a 10X scope on it."

"Boy, what a shell. I'll betcha this rifle really kicks."

"Well, it's a 30-06 necked down to a 25-caliber and then blown out by form firing," I began.

"Hold on—that kind of talk is pure nonsense to me. I've never used any rifle for chucks except this little outfit here."

"By the way, why didn't you shoot?" I asked.

"You'll never believe me. I've had this 218 Bee for a number of years. I think it's a Model 43 Winchester. A few years back, I had a secondhand scope installed. That sure was a mistake. I haven't killed 10 groundhogs since. Must have missed over 50. I could do better with open sights."

"Gotta be something wrong," I cut in. "I've used scopes for years, and I always had good success. You can't beat a scope," I added. "Mind if I take a look at yours?"

"Help yourself," he replied. "I'll be happy for any advice or if you can just tell me what's wrong with me or the rifle."

Apparently this man had had no knowledge of scopes. Where he had got this scope was more than I'll ever figure out. Of all the scopes I had seen, this one was by far the worst. It was an inexpensive $\frac{3}{4}$ " tube model of foreign vintage. I suppose it was a fair scope when new, but it was next to impossible to see through it now. It was just a piece of junk. I didn't know how to go about telling this man the truth without offending him, but I decided that a straight answer would be better than to evade the facts.

"The trouble is in your scope. I'd suggest replacing it."

"Are you sure?" he asked rather dejectedly. "That scope was supposed to be a good make."

"You can't see through it, can you?"

"No, but that problem exists in all scopes."

Glancing across the valley, I saw that the chuck had come out again. Now I could really show him what I meant.

"Hey, we're in luck," I said, pointing. "Try my rifle. It should be right on the money at that distance."

"I still think it's too late. I couldn't see through my scope five minutes ago. That's what I don't like about them. They do magnify, but just the minute it gets a little dark, boom, they're done."

I realized the man meant well and believed what he was saying. However, it was plain that he had never looked through another scope.

"Give it a try," I encouraged. "I think you'll be able to see through the 10 power."



He took the rifle, got into position and looked into the scope. His head quickly turned toward me. "Sufferin' catfishes! That darn chuck nearly leaped into my lap. I could see it clear as the tone of a bell. Boy, what a scope!"

"Watch that trigger; it's pretty touchy," I warned as he began to line up on the chuck.

The fellow was no slouch. He cut the chuck down with a perfect head shot.

"Did I get him?" he asked. "I lost all track of the chuck when this cannon went off."

"You sure did, my friend. That chuck never knew what hit it."

"I can see this will cost me. I won't be satisfied until I get another scope."

On the way over and back, I pointed out a few things about various types of scopes. He was all for buying a big 10X target type like I had on the 25-06, but I finally convinced him that a good 6X would be more suitable for his little 218 Bee. I think he was one of the happiest fellows I've ever seen.

Used in Civil War

Strange as it may seem in this day and age, nearly every summer I encounter one or two hunters who fall into the category of this man. Another thing that gets me is that most of these men are experienced hunters. I will admit that the majority of them come from the days of open sights and close shots. In a day when we've walked on the moon and floated millions of miles through space, there still exists a wide chasm between the open sight advocate and the man who uses a scope. This situation shouldn't exist. To hear a lot of hunters talk, the scope is as modern as television or jet aircraft, but actually they were used by some buffalo hunters after the Civil War, and I've even read that telescopes were used during that war. Unfortunately, tradition sometimes refuses to budge, and a better mousetrap often sits on the sidelines of history.

That's what happened to the scope.

Hunting conditions during the early 1900s didn't require one, and not much effort was made to improve the scope, so, its critics of that era had a field day degrading it. Just think, if a large number of hunters yet today want no part of a scope, what was it like 40 years ago? But keep in mind that any good scope of proper design is an asset to the hunter, and it will outperform by a large margin any type of metallic sight. There's no argument there.

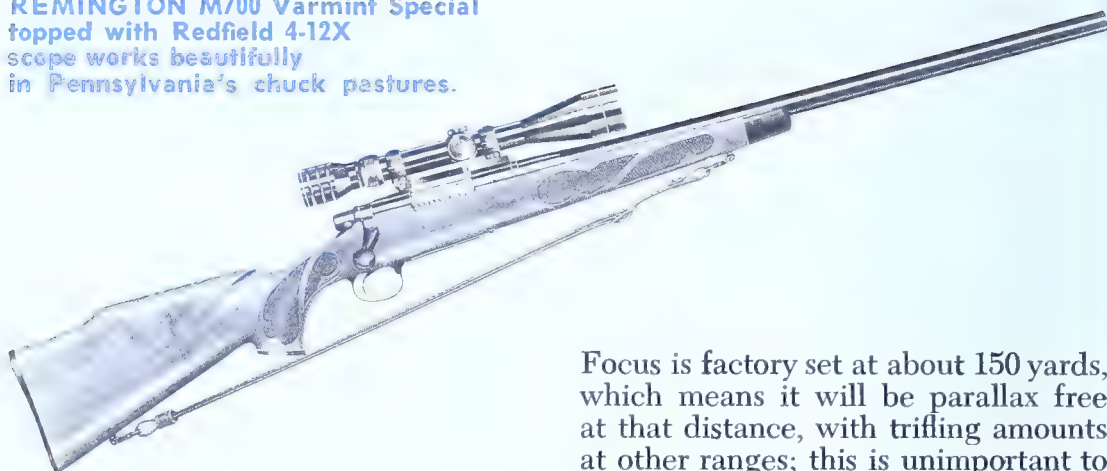
Perhaps a few paragraphs discussing the nomenclature of a scope might help the hunter the next time he buys a scope. For one thing, the scope is a precise optical instrument that requires skill to assemble. It's not just another type of sight. Stated simply, a scope is an optical system that has an objective (front) lens, an erecting system, reticle, and an exit lens called an ocular. These parts are all accurately positioned in a mechanical structure.

The objective or entrance lens must be in proper ratio to magnification so that sufficient light will be obtained. The erecting system is self explanatory and erects the inverted image formed by the objective at its focal plane. The ocular or eyepiece further enlarges

TARGET SCOPES, typified by big 6-24X Bausch & Lomb variable, are heavy and bulky in the field, but give exact adjustments and fine optics.



REMINGTON M700 Varmint Special
topped with Redfield 4-12X
scope works beautifully
in Pennsylvania's chuck pastures.



this image. Focusing the reticle to suit the individual user is accomplished by axially moving the eyepiece until the reticle is seen clearly. The reticle can be placed on the focal plane of either the ocular or the objective lens. It's really a matter of mechanical convenience. Single power hunting scopes usually have the reticle in the focal plane of the objective whereas the target type scope and modern variable power designs have it in the focal plane of the ocular. A scope is a rather complex unit, but the end result is a distinct advantage to the shooter.

The proper choice of a varmint scope depends a good bit on the rifle and cartridge. Generally speaking, there are two types of scopes—the hunting type and the target scope. There is a difference between them. On most rifles designed primarily for the varmint shooter, I suggest the target type scope.

The hunting scope is designed for compactness. A real effort is made to keep it short and light in weight, since it will be carried for long periods of time over all types of terrain. The adjusting system on most hunting scopes is internal, and adjustments are made by turning metering wheels on the top and side of the scope tube. Eye relief is usually 3" or more so recoil doesn't drive the tube against your eyebrow.

Focus is factory set at about 150 yards, which means it will be parallax free at that distance, with trifling amounts at other ranges; this is unimportant to the big game hunter since his target is so large compared to the varmint shooter's.

One of the hunter's major concerns is field of view. Rapidly moving game necessitates a large field, and this is available only in low powered scopes, so first choice for deer hunters is usually a 2½X or 4X. These provide all the accuracy of aim that's needed for their quarry. But a varmint hunter, who may be trying to center a chuck's head at 300 yards or more, needs greater magnification, a fine reticle and precise adjustments.

There is a trend nowadays to variable power scopes—those having zoom lenses which give a choice of powers within a reasonable spread—3X to 9X, 4X to 12X, etc.—but this design is not a complete answer to all the shooter's problems. I'll admit that a top quality variable goes a long way toward being the all-purpose scope, but it too has some drawbacks.

One feature that I don't care much for on the higher powered variables is the large objective lens. On a short hunting rifle such as the Remington M660 or Ruger M77, it looks quite bulky. On some variables, the range of adjustment is very critical, and unless the rifle is drilled precisely, there is not enough adjustment capacity to take care of an off-center set of holes. Another point is that the high powered variable has little to offer the 30-30 or 32 Special, since these two, along with other short-range rifles, are used pri-

marily for heavy brush hunting. This class of rifle needs the short 2½X or 4X instead. Either of these scopes will offer the hunter all the power he needs.

The target type scope is built along different lines. Here compactness and weight are not given much consideration. For the target shooter or the varmint hunter who carries the rifle short distances, the extra weight and bulk are not objectionable. The target scope is comparatively long, and its adjustments are not in the scope but are made in the rear mount. The target scope is made long for different reasons, one being so the bases on the rifle can be kept far apart to give precise adjustments. The normal base separation for most target type scopes is 7.2". This permits a ¼" movement of the bullet at 100 yards with each click. When one of the thimbles on the mount is turned, the click is very pronounced and the scope actually moves. Nothing inside the target scope moves.

Exact Metering Systems

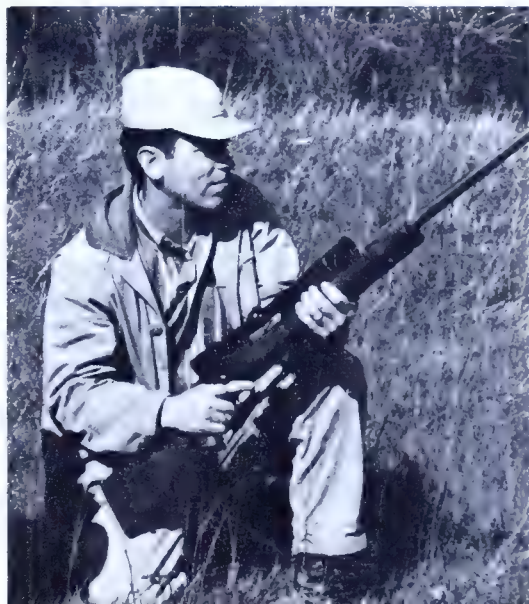
I've shot many target type scopes, and I've always found the metering systems to be exact. I can't say the same for a lot of scopes that have internal adjustments. For instance, on the normal 7.2" base separation, eight clicks of left windage should move the bullet two inches to the left at 100 yards. Likewise, eight clicks of elevation should move the bullet two inches up. By reversing the situation, the rifle should be back on zero, and the target type scope will do this. To show that base separation is of real significance so far as metering goes, a set of bases 5.4" apart will change the impact ⅓" at 100 yards, while bases that are 12.5" apart will have an impact change of just 1/7 of an inch at 100 yards.

Although parallax has been used as an alibi for misses many times, it really is rarely a problem in the hunting scope, and, thank goodness, the target type scope has adjustments to take care of it. Parallax is usually ex-

plained by saying it's the apparent movement of the reticle on the target when viewed from different positions through the eyepiece. What it means is that the reticle is not properly located at the focus of the lens system. I set my varmint scopes parallax free at a fairly long range since I don't use those scopes for shots under 200 yards. If I'm shooting on the bench, I make the parallax correction for that distance being fired. It's just a matter of properly focusing for range. The importance of having the scope parallax free is that the best resolution or image quality is obtained from an optical instrument that is free of parallax.

I think the target type scope is better suited for heavy barrel rifles or one that will be used exclusively for target or varmint shooting. I don't think I would put a target scope on an M99 Savage in the 300-caliber. I do think the long scope enhances most bolt action rifles. I have a Ruger M77, 22-250 light barrel with a Unertl 8X Varmint scope on it, and it's a classy looking outfit. Besides that, it shoots like the dickens. Other rifles that take to the long target type scopes are the Winchester Model 70 Varminter, the heavy barrel M700 Remington, the Ru-

LYMAN 10X All-American scope has proved its excellence on varmint rifles for many years. It's shown here on M70 Winchester barreled for the wildcat 6mm Cobra cartridge.



ger No. 1 heavy barrel, plus the heavy Sako and Weatherby models. Not only does the shooter have a wide selection of good rifles to choose from, there is no shortage of scopes.

Redfield introduced their Model 3200 several years ago. It is unlike other long target scopes since it has its adjustments internally. The reticle is centered and extreme elevation adjustments do not affect the position of the cheek on the stock.

12X Enough Power

Unertl and Lyman have more or less dominated the target scope scene for a number of years. Lyman offers the Super Targetspot in powers from 10X to 30X. The ones that I've used had plenty of efficiency to offer. Adjustments are made in the rear mount. Unertl covers the target and varmint field more than any other scope manufacturer. Practically every hunter's need can be filled with a Unertl. I use the one-inch 6X on squirrel rifles, the 8X Varmint scope on light barrels, and the heavier, large 10X and 12X Ultra Varmint scopes on the heavy barrels. I would hesitate to go much above 12X since summer hunting is subjected to all kinds of heat waves and the higher magnifications are hard to use.

Perhaps this is the year that you

have decided to do something about a scope for chuck hunting. I can't say that I've answered all the questions, but I have tried to cover the field so that you will be better equipped to know what you should have. In making the choice, I would consider a few things. The straight power hunting scope can be used—especially the 6X if it has a fine reticle. It offers enough power for the chuck hunter and still has a reasonably large field of view for the big game shooter, especially Redfield's new Widefield design. The variable will serve on any rifle, but consider the drawbacks I mentioned earlier. The target type scope is the best bet if the scope is to remain on one rifle. Also, it's almost impossible to use a target scope for general big game hunting, so this keeps the bulky, long target scope strictly in the target and varmint class of shooting.

I suppose it's a matter of opinion, but, if you wish to consider my advice, don't jump before you look. Browse around and see and handle as many different setups as possible. Better yet, shoot a few of these rifles to get first-hand knowledge of what I'm talking about. After you've done a little research, you'll be in a better position to make the proper choice. Unless you can afford a scope for every rifle, pick your chuck scope with care.

Looking Backward . . .

"Further east, the Lebanon Valley and the Millbach region adjacent to the Buffalo Springs, the furthest east recorded of the lordly bison in Pennsylvania, was like a park at the arrival of the persecuted Palatines and Huguenots escaping from the fury of nickel-squeezing Patrons at Schorarie, New York in 1723.

"It seemed like some nobleman's domain,' very old people told the late Dr. Walker L. Stephen, born in Womelsdorf, foremost Pennsylvania folklore authority, 'and our people resolved to remain among Indian friends, as there could be no more beautiful spot on the face of the earth.'"

H. W. Shoemaker, "This Morning's Comment," "Altoona Tribune," March 5, 1941.

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS *Executive Director*

ROBERT S. LICHTENBERGER *Deputy Executive Director*

EDWARD T. DURKIN *Comptroller*

Division of Administration

DANIEL H. FACKLER *Chief*

Division of Research

DALE E. SHEFFER *Chief*

Division of Land Management

HARVEY A. ROBERTS *Chief*

Division of Law Enforcement

JAMES A. BROWN *Chief*

Division of Minerals

JOHN B. SEDAM *Chief*

Division of Propagation

RALPH E. BRITT *Chief*

Division of Information and Education

ROY W. TREXLER *Chief*

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188

BUTLER, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.
SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.
Phone: A.C. 412 238-9523 or 238-9524

Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641

Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.
SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.

Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.

Phone: A.C. 717 675-1143 or 675-1144
Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.

Phone: A.C. 215 926-6071
Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473.
Phone: A.C. 215 287-8151

WESTERN GAME FARM—Jack N. Anderson, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212

LOYALSOCK GAME FARM—Charles Pfeiffer, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500

STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223.
Phone: A.C. 814 275-2515

STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

HOWARD NURSERY

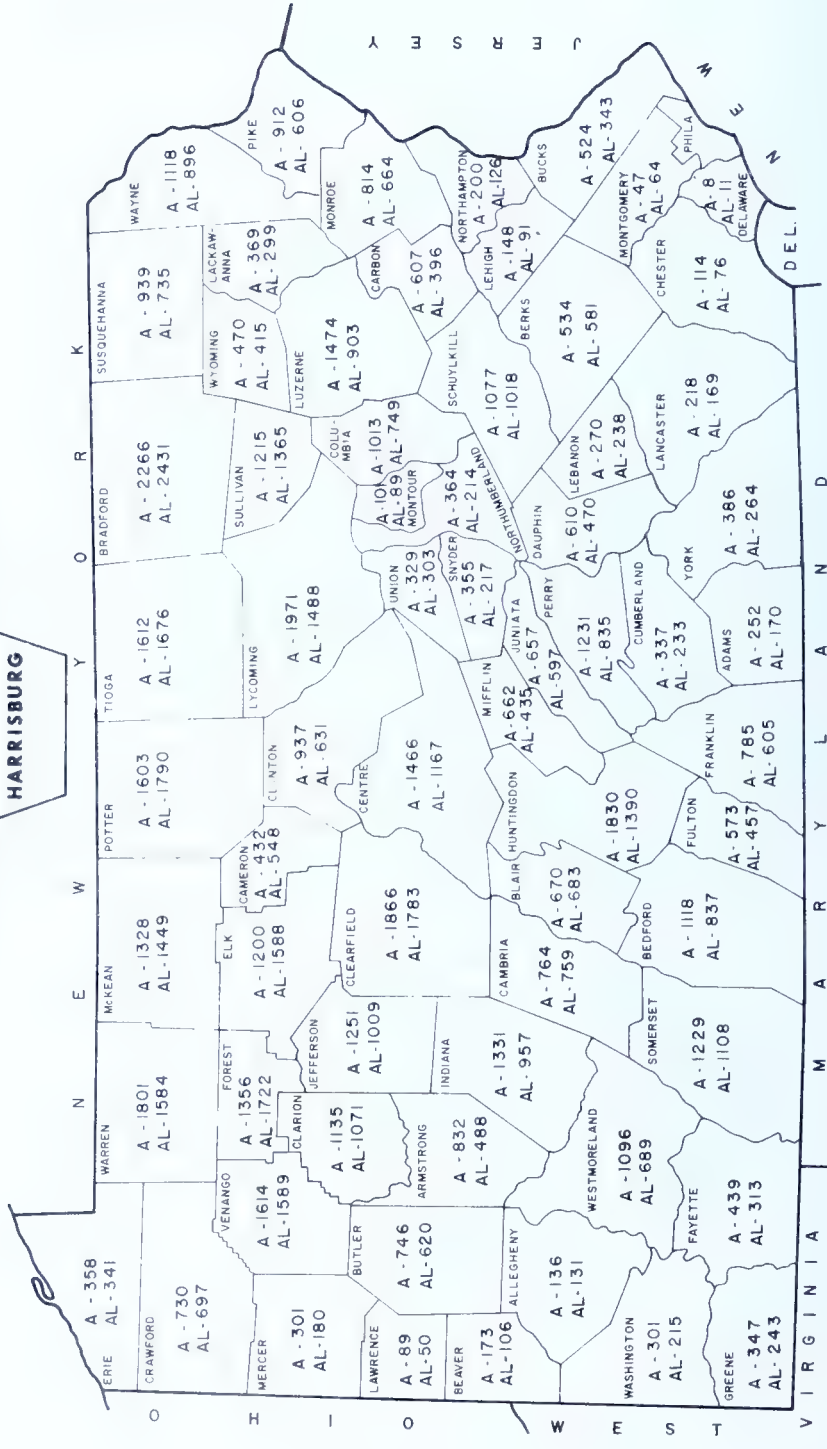
SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brookway 15824. Phone: A.C. 814 265-0456

1970 DEER HARVEST

PENNSYLVANIA GAME COMMISSION
HARRISBURG



ANTLERED DEER (SYMBOL-A)		ANTLERLESS DEER (SYMBOL-AL)	
REGULAR SEASON	51,957	REGULAR SEASON	44,069
COUNTY UNKNOWN	302	COUNTY UNKNOWN	360
ARCHERY SEASON	1,091	ARCHERY SEASON	1,907
TOTAL	53,350	TOTAL	46,336
Grand total DEER kill		99,686	

38.34
1.6
Vol. 42
no. 5

PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION

APR 16 1971

PENNSYLVANIA GAME NEWS

MAY, 1971

15 CENTS



Published Monthly by the
PENNSYLVANIA GAME
COMMISSION
COMMONWEALTH OF
PENNSYLVANIA

Milton J. Shapp
Governor



COMMISSION MEMBERS

Edwin J. Brooks, President
Lansdale
Andrew C. Long, Vice-President
Shamokin
H. L. Buchanan, Secretary
Franklin
James A. Thompson
Pittsburgh
Loring H. Cramer
East Stroudsburg
Frederick M. Simpson
Huntingdon
Robert E. Fasnacht
Ephrata
Marshall E. Jetty
Brockway



Glenn L. Bowers
Executive Director



PENNSYLVANIA GAME NEWS

Robert S. Bell
Editor
R. Theodore Godshall
Associate Editor
John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
Instant Wilderness	2
By Bill Walsh	
The Ups and Downs of Rabbits	7
By John Kriz	
Ferreting for Facts	13
By Dale E. Sheffer	
Mostly About Amphibians	14
By Carsten Ahrens	
Retrieving Dog Field Trials	18
By Nick Sisley	
The Jasper Pits at Vera Cruz	23
By Tom Fegely	
Dad's Hunting Horn	26
By Al Shimmel	

NEWS

Field Notes	34
Conservation News	39
By Ted Godshall	
Hunter Safety Education	47
By John C. Behel	

COLUMNS

The Campers Are Coming! (Camping)	49
By Les Rountree	
Equipped for Carp (Archery)	54
By Keith C. Schuyler	
Now's the Time to Install a Scope (Guns)	59
By Don Lewis	

COVER PAINTING BY J. M. ROEVER

Again this month, Pennsylvania hunters have an open season on bearded turkeys during the spring gobbler season, May 8-May 15 except Sunday. Shooting hours are one-half hour before sunrise until 10 a.m., EDST. Hunters should be out of the woods by 11 a.m. Hunting is by calling only. The use of dogs, electronic callers or organized drives is prohibited. Bows and arrows and shotguns using shot no larger than No. 2 are permitted. The use of rifles and pistols is prohibited. Only one turkey may be taken by a hunter within a given license year. The gobblers are out there and many hunters will return with one. I hope one of the successful ones is you.

Published MONTHLY by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$1.50 per year; \$4 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved. **NOTICE:** Subscriptions received and processed by the last day of each month will begin with the second month following.

The Big Eye and the Big Lie

TELEVISION is many things to many people. Basically, it is an entertainment medium. It is also a method of instantaneously bringing newsworthy items to the public's attention. Apparently in an effort to present certain interesting happenings in greater depth than the normal newscast permits, programs called documentaries were developed. These, because of their very nature, their tone, the style of their presentation, create the feeling that they accurately present the situation being covered—in other words, are truthful.

This isn't always so. On January 8 the National Broadcasting Co. televised nationwide a "conservation" film entitled "Say Goodbye." If there ever was a worse representation of so-called conservation, I can't remember it.

For those of you who were lucky enough to miss it, let me say that it showed such scenes as a small deer besting a mountain lion and a badger outfighting a grizzly bear. Though ridiculous, these are essentially unimportant, merely further proof of the ignorance most television shows display about wildlife.

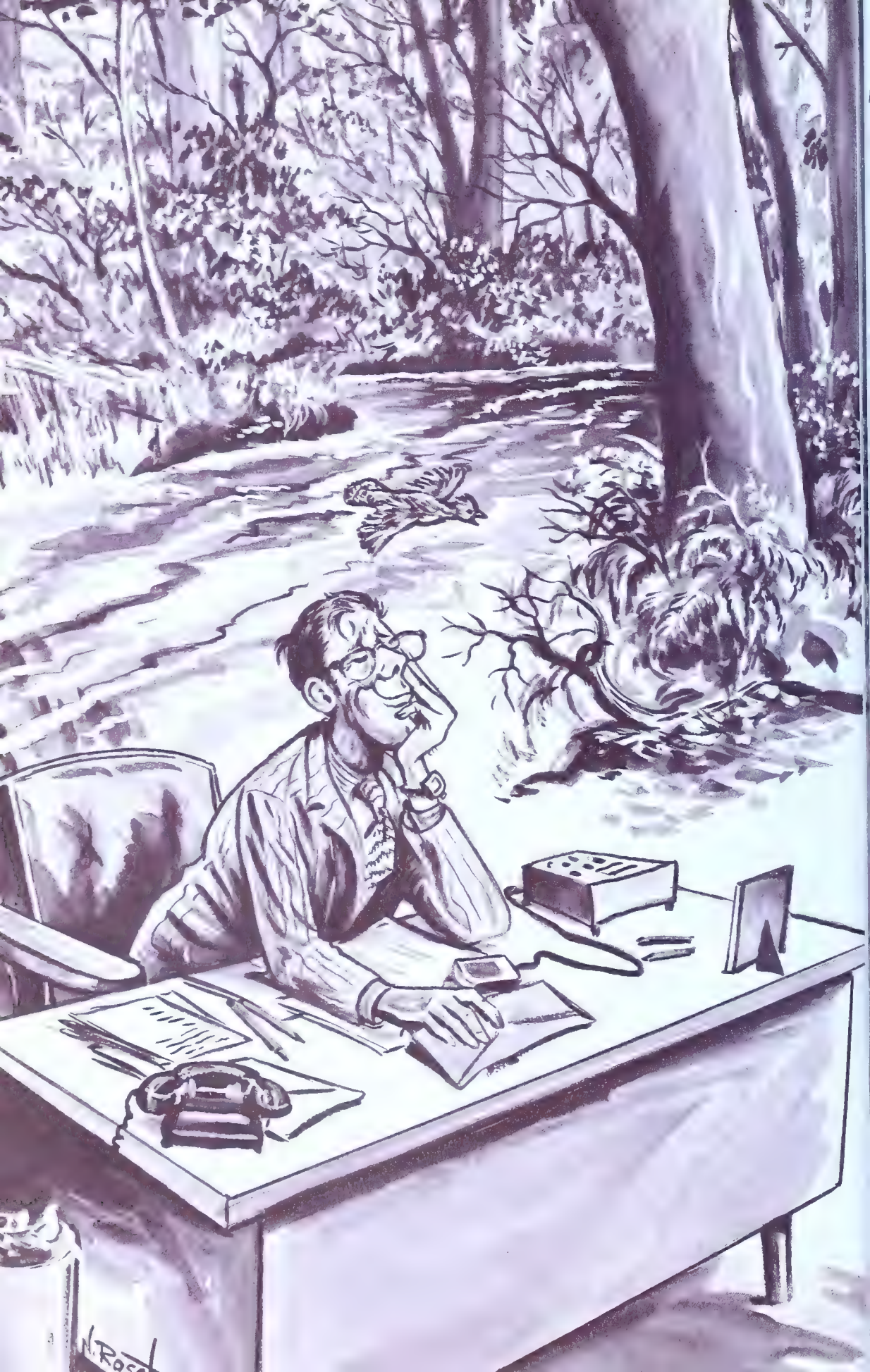
What was deeply disturbing was a closeup scene of a female polar bear, supposedly shot by a hunter who used a helicopter to stalk the bear, writhing in agony while her cubs looked on in pathetic helplessness. The camera repeatedly turned to the cubs, as if to show their wistful inability to understand the hunter's actions. The only reaction anyone could have was anger and disgust toward the hunter.

However, the truth of the matter is that the female polar bear was not shot by a hunter. In fact, it was not shot by anyone. An explanatory letter from Wallace H. Noerenberg, Commissioner of Alaska's Department of Fish and Game, states: "... the portion of the film which shows a female polar bear and her cubs was taken by an employe of the Department of Fish and Game on an anesthetized female polar bear during one of our polar bear tagging operations." In other words, this scene, instead of showing an animal in its final agonies, an animal whose death will leave its orphaned cubs to fend for themselves in the Arctic cold, as the film deliberately suggests, actually showed a bear being tranquilized during a scientific and humane project designed to improve knowledge of this species.

There are other examples reflecting pointlessly on hunters—a rancher shooting several prairie dogs with his old 30-30, for instance. I say "pointlessly" because it's the never-ending poisoning which has depleted the numbers of these little animals, not shooting, which could never even keep their numbers in check. Still, the scenes were deliberately edited in.

And so I feel it becomes valid to ask what is the purpose of such a film, which, you will remember, was a supposed documentary. The sponsors of the show, the Quaker Oats Co., say that an anti-hunting viewpoint was not their intent, that the program was pro-nature. They also say that they did not have anything to do with its production, that it was conceived and executed by the David L. Wolper organization, a company which produces television specials and feature films. The sponsor reportedly reviewed the film but did not have the right to make changes. We have to accept the sponsor's statement that he feels this isn't an anti-hunting film, even though we question his judgment. It may even be true that the organization which made the film was well-in-

(Continued on Page 42)



N. Rose

Instant Wilderness

By Bill Walsh

I HAVE GOT it made! I mean, this new idea of mine will bring in a fortune. Can't miss! An abiding formula for financial success reads: Find a need and fill it. And didn't Henry David (Thoreau, that is) say in so many words that we all *need* wilderness and solitude?

There, I've let the cat out! Now you know I'll make my bundle selling solitude and wilderness. You also know it won't be easy, what with open space vanishing into roads, industrial expansion and ticky-tacky at breakneck speed. To say nothing of the alacrity with which commercial interests seek to perforate the purity of remaining wild places with freeways, deep-water dams and leases (plunder permits?) to remove the last stick of timber or the final trickle of oil.

Yes, it'll take rare ingenuity to provide wilderness as a product . . . let alone primitive countryside the moment you want it. Yet that is what I propose to do. Just think—with my Instant Wilderness Kit you'll be able to step from your office or living room into a world of blue skies, snow-capped mountains, lodge pole pines and clear-running trout streams.

All this, you might say, at the flick of a switch. No—it won't be easy—but I can do it!

I've already proven my inventiveness with that other item, the electronic deer call. I never got to market it because the Fish and Wildlife people frown down a long, legal nose at the luring of antlered quarry with solid state gadgetry. Nevertheless, the earmarks of creativity stood out all over that project, if I do have to say so myself.

I ran tape recorders full-tilt for an entire winter in two widely separated

apple storage warehouses . . . one near Seattle for western mule deer and one outside Winchester, Va., for eastern whitetails . . . capturing the intricate yet enticing rhythms of several million bushels of apples just sittin' there in wait . . . row after tempting row.

I taped all kinds of apples, too, contingent on the preferences of individual deer: Golden Delicious, Jonathans, Cortlands, Spies . . . you name it. When played, this tape mesmerized deer for miles around, coaxing heavy-racked bucks to within a few feet of the machine. *But back to this better idea*—of Instant Wilderness. Or do you suppose it will sell better if I call it Synthetic Solitude?

Simply, the deal is this:

You're on the way home from work. You're boxed in by 10,000 autos in front of you; 10,000 behind; two lanes to the left, one to the right. The lady driver on your immediate right is not watching the road but conducting an animated discussion with her passenger. You observe that often *both* of her hands leave the steering wheel . . . and that she's slowly forcing you into the car at your left.

Automatic Creeper Gear

Your foot darts nervously from accelerator to brake and back again. You wish Detroit would install a special two-mile-an-hour automatic creeper gear for commuter freeway travel. Your nostrils burn from the general smog layer but you dare not breathe through your mouth for fear of upchucking the swallowed diesel fumes of the bus three rows ahead.

It's been a bad day. At home—if ever you get there—your wife expects you to turn on the bright-and-cheerful act for the neighbor-couple coming to



YOU DIDN'T THINK I'd leave you hanging there with just sight and sound? No, the olfactory portion will waft in your selection of aromas!

dinner. And she'll black and blue your shins under the table if you follow your natural instincts when they throw you their time-worn sales pitch on why you should register your shotgun . . . all the while they devour the last of your freezer's mallards.

If only, even for a brief respite, you could transport yourself—body and spirit—away from it all! Your memory swings back to a wilderness camping trip you once enjoyed. Man, that was something—no cars, no houses, no litter, no noise . . . breathing air you couldn't even *see*!

Well, with my handy-dandy Instant Wilderness Kit you will be permitted to shut yourself away from the rat race and return to solitude . . . any time . . . anywhere . . . even in your own living room. For a minute . . . or an hour . . . or a day! You won't even have to call your travel agent.

Of course, I am going to have a lot of problems learning how to merchandise the item: where to advertise—even how much to charge for the thing.

Since it will provide you with a vacation whenever you want it, I am going to try, however, to keep it about

half of what it would cost for a two-week trip to somewhere not too far away. Does that seem fair?

I am also going to have to contact a lot of suppliers and get the best deals from each of them in assembling the various components of this gem of a brainstorm that all of a sudden came to me during a coughing fit in Philadelphia.

For example, every tentmaker except Omar will be after my order when they discover that my basic structure will be tent-like. But they'll have to be on their toes and learn new techniques to meet some exacting specifications. The outside can be heavy-duty canvas, of course. But the inside . . . onto which wilderness settings will be projected from full-circle slides through a special fish-eye lens . . . must be coated like a movie screen.

As the primitive tepee had a smoke escape at the top, my modern hide-away will feature a filtered opening working in reverse . . . not to let smoke out but to *keep* it out, together with the other noxious and noisome gases and materials hanging around in our air these days.

Images From Top-Center

The yet-to-be-selected lens (and here's a chance for some optical genius to share a portion of this fortune by getting on the ball and designing it) will project the various images from top-center of the tent. Since you'll be seated in the center to enjoy this outdoor fantasia, the special lens is required so your own fat shadow won't show on the wall—I mean the screen.

Naturally, this backwoods light show will program to individual taste. At the turn of a dial you may select a star-filled midnight sky; thunderheads piled against azure at noon; sunrise over a prairie; Joshua trees in the desert; snow-capped mountains rising in the distance . . . and this is only the *video*!

For audio I will present for your pleasure the bubbling rhythms of a fresh-water trout stream; the cres-

cendo of ocean surf assaulting the shore; a whippoorwill calling; night wind sighing in the pines . . . or even the singing of tree frogs and crickets in a muted, far-off serenade.

And on top of all this—you didn't think I'd leave you hanging there with just sight and sound?—the olfactory portion of getting away from it all (just press the red control button on the panel there) will waft your selection of aromas throughout your retreat's cozy interior.

Essence of Crushed Birch Bark

How about essence of crushed birch bark mingled with just-now-walked-upon pine needles? Or the characteristic pungency of a duck marsh at dawn? Or the clam-juicy sweetness of low tide on sand beach?

To derive the benefits of all I have described, you merely set up the kit in your backyard . . . or leave it up in the recreation room or basement. Hustle inside. Zip up the vent that shuts out the world and turn on your own version of what it's like to get away from it all.

Advanced models may include my Fabulous Fishing Simulator . . . an ingenious device which will allow you to pick up the business end of a fishing rod and, by pressing a button on the underside of the reelseat, be treated to the "feel" of a fish striking the bait and battling you down to the last inch of monofilament.

Eventual refinements will broaden your choice. The Simulator-Selector will duplicate the "vibes" of any fin-critter from the joint-jarring acrobatics of a giant muskie all the way down to the delightfully exciting gyrations of a six-ounce sunfish on a three-ounce flyrod. This will be more appreciated as mercury and DDT levels continue to build up.

Hunters may opt for a similar deal. We'll make special movies in which ducks and geese wheel into the blind or big-racked deer leap into and out of clearings for a quick shot. Like the amusement park electric-eye guns, our

Simulator could ring a bell (or *beep* or something) when the gunner is on target. Although this wouldn't produce much game for dinner, there'd be no ducks to pick!

One of the men I surveyed on this idea pooh-poohed the whole thought on the grounds it is too artificial. But every morning he wrestles with the oars on one of those stationary rowing machines—eight miles from the nearest water. Hmmpmph!

The same gent thinks no one will buy such a trumped-up contraption (he calls it a contrumption) as an Instant Wilderness Kit. But I have had a few surveys taken . . . well, actually I took them myself . . . with some amazing results. After describing the kit to the people I interviewed, including some poor relatives, I found quite a lot of interest.

One of my questions was, "How much would you pay for such a product?"

One fellow said, "I would give you two weeks' pay and consider it a fair price." Another—"You could get my right arm for this thing when my mother-in-law is visiting at Christmas time." A third claimed he would part

"I'LL ROLL OUT my sleeping bag, turn on the midnight sky-and-stars picture and sleep in it every night. It's healthy to sleep outdoors!"



with all the money he makes in July and August, but I found out he was a schoolteacher on a 10-month contract and discounted his answer from my final statistics.

When I asked, "How and when would you use this product?" the answers were equally varied. One said, "I would roll out my sleeping bag, turn on the midnight sky-and-stars picture and sleep in it every night. You know it's much healthier to sleep out of doors."

Another—"I'd go into the thing right after supper to evade the cultural enlightenment of TV."

An old maid who lives with her sister said, "I've been trying to get a certain gentleman alone for some time but can't get rid of Sis. Perhaps I could ask him inside your product to see the sunset." Actually, my idea wasn't to encourage romance but I won't knock it if it works.

The job of filtering out the foul air that surrounds us from day to day I will assign to a new-type dessicant at first. Later models will have a noiseless mini-motor providing fresh air

through a conditioning system that will also control temperature and humidity to match desert or seashore—or points between. G.E. is working on this (that's George Egenhardt, a friend of mine with an electrical bent).

One gentleman with whom I've talked wants to buy a hundred kits just as soon as they are ready—on credit, of course. His idea is to set them up on the edge of town like a long row of outdoor motel rooms so people can have their wilderness settings without traveling so far. It *would* save on gas and cut down on air pollution.

At any rate, the present interest in Instant Wilderness has encouraged me to go ahead with plans to manufacture. The only doubts I have are in connection with conservationists . . . especially those hunters and fishermen who are as active as the ones in Pennsylvania. If they succeed in saving their wilderness and in cutting down on air and water pollution . . . I might lose a big bundle of cash on the whole affair.

In one way I hope I do—don't you?

Dauphin County Snake Hunt

The annual Dauphin County snake hunt, sponsored by the Keystone Reptile Club, will be held this year on June 5. Registration will begin at 6 a.m. at Koons Memorial Park, Linglestown, Pa. Rattlesnakes, copperheads and large black snakes will be taken. They may be hunted anywhere in Dauphin County. No snakes will be killed. Trophies will be awarded in various categories. All persons interested in snake hunting are welcome.

Game Farms Welcome Visitors June 6

Open house programs will be held at all Game Commission Farms on Sunday, June 6, from 1 to 5 p.m. Game Commission personnel will conduct tours and explain how various game birds are hatched and reared. The six locations are: Eastern Game Farm, between Limerick and Schwenksville; Western Game Farm, three miles southeast of Cambridge Springs on Route 408; Loyalsock Game Farm, five miles north of Montoursville on Route 87; Wild Turkey Farm, 17 miles north of Montoursville between Barbours and Proctor; Wild Waterfowl Farm, two miles northwest of Geneva; Southwest Game Farm, three miles south of New Bethlehem near Distant, on Routes 28 and 66. Everyone is welcome.

The Ups and Downs of Rabbits

By John J. Kriz
PGC Wildlife Biologist

HOW DO YOU measure a cottontail rabbit population? Can you really tell how many rabbits live in a certain area? Game biologists and wildlife managers have been trying to answer these questions for many years, and we are still not sure. We think that about one rabbit per acre in the fall is a good density. Of course, during the summer, when the young are just being born and nature hasn't culled the weak in its many often-mysterious ways, four rabbits per acre may be a more reliable figure. In late winter, after the hunter, the predator and winter weather take their share, and reproduction has not yet begun, the number per acre is comparatively low.

But getting back to counting rabbits—what is the best way? Many methods have been attempted, from crude flushing counts to scientific bio-electronics. Each has its pros and cons, the sophisticated approach probably being the most accurate, though its cost is prohibitive. At this time we think the trap and tag method is the best and most reliable. With this system, rabbits are trapped, tagged and released. After a period of time, the area is trapped again. During the second trapping session, some tagged rabbits will be trapped along with some that aren't tagged. Using the ratio of tagged to untagged animals, a population figure is calculated. Simple—or so it appears initially. There are problems.

For this formula to work accurately, the population must not have changed during the time interval between the



WILDLIFE BIOLOGIST John Kriz prepares to remove cottontail from trap on the Conemaugh test area during research program on cottontails.

two counts. We know this will not be the case, because mortality factors and reproduction take place. These variables can be minimized by making the second count right after the first, but there is a possibility that some rabbits now have learned to stay away from the traps, thereby giving a biased result. Also, population fluctuations due to mortality and possibly repro-



HOLDING BAG OVER end of trap makes it easy for researchers to remove rabbits. Ears are tagged and tattooed through small slit in bag.

duction will still exist, no matter how quickly the second trapping program is conducted. Furthermore, how do we know some rabbits have not moved off the area being trapped, or onto it? Fence it, is the first suggestion. Try fencing a couple of hundred acres to make them rabbit proof. It's hard enough fencing a garden to keep rabbits from eating the flowers.

These are just some of the problems which make it difficult to determine population figures. There are others—such as what kinds of bait to use. If you use one bait one time and another the next, will this cause a difference? Is bait or curiosity the biggest factor in getting a rabbit in a trap? As a rabbit gets older does our ability to trap it change? Is one sex easier to catch than the other? How about changes in the weather? Suppose one trap period is wet and the next dry, or it is calm and cold one time and warm and windy the next, or humidity is high once and low the next time. What effect do these factors have on our ability to trap rabbits?

What about the trap itself? It appears that once a cottontail has used a trap, this particular trap becomes more effective. But it isn't always possible to use the same trap in a given location. However, when a second trap is used, can we be sure it's even mechanically as good as the first? And then there are the problems of labor and economics. All these things, and more, can cause variation in the trapability of rabbits. So coming up with a reliable figure concerning the number of bunnies on a given area is questionable to say the least.

Discrepancies Minimized

Over the years, people working with cottontails have learned to minimize these discrepancies. For instance, on a 400-acre portion of the Conemaugh Reservoir in Indiana County, we have found out that a 12-day trapping period will usually be sufficient time to catch enough rabbits with which to work. This time period also minimizes variables due to climatic changes. A certain type of wooden box trap baited with apple and rabbit lure appears to do the job. The same trap is used throughout the period, unless it is broken. Then it is replaced. We think that egress is equal to ingress, or, in simpler terms, as many rabbits move off the area as move onto it, thereby canceling this variable. The area is trapped twice a year, once in the fall before the hunting season and then again in March when the population is at its lowest. The results of these two trapping periods won't give us a precise population figure, but using these data in relation to the number of tagged and untagged rabbits that the hunter harvests does give us a pretty good idea. Trained personnel interview hunters throughout the season to determine the number of cottontails bagged. The same number of traps, always placed in the same spot, has been used every trapping period since the study was started in 1955. No rabbits are stocked or removed, except by hunting and natural mor-

tality. The study is still under way and some of the results are listed below.

Rabbit populations change on a given area from year to year. On the Conemaugh, numbers of cottontails caught has varied from a March low of 54 and a high of 104, to an October low of 76 and a high of 211. These fluctuations appear to follow a rather smooth curve. That is, rabbit numbers do not jump from a high to a low in one year, but gradually build up and drop down. For instance, a high population in 1956 gradually dropped to a low in 1961, built up to a high again in 1965, dropped to a low in 1969, and is once again on its way up.

Less Than 30 Percent Harvested

Hunter success is usually in direct relationship to the number of cottontails available—the more rabbits on the area, the better the hunting will be. This is no more than common sense. However, what is not commonly known is that hunters usually harvest less than 30 percent of the population, no matter how high or low it may be. In 1965, when the rabbit population was high, hunters shot 22 percent of those available. In a lean year, 1969, 29 percent of the available rabbits were taken. The poorest success was attained in 1967, a year the population was dropping.

Another interesting hunter statistic shows that the ratio of successful hunting parties is in direct relationship to the rabbit population. In the years of high rabbit populations, more hunting parties were successful than in years of low populations. But here again, the percentages are lower than most people realize. In 1965, a high year, only 30 percent of the parties hunting rabbits actually bagged at least one cottontail. In the low years of 1961 and 1969, about 9 percent of the parties hunting rabbits were successful. So it looks as if we could never exterminate rabbits by hunting alone because hunter success drops more rapidly than does the number of rabbits. We also find that hunting parties

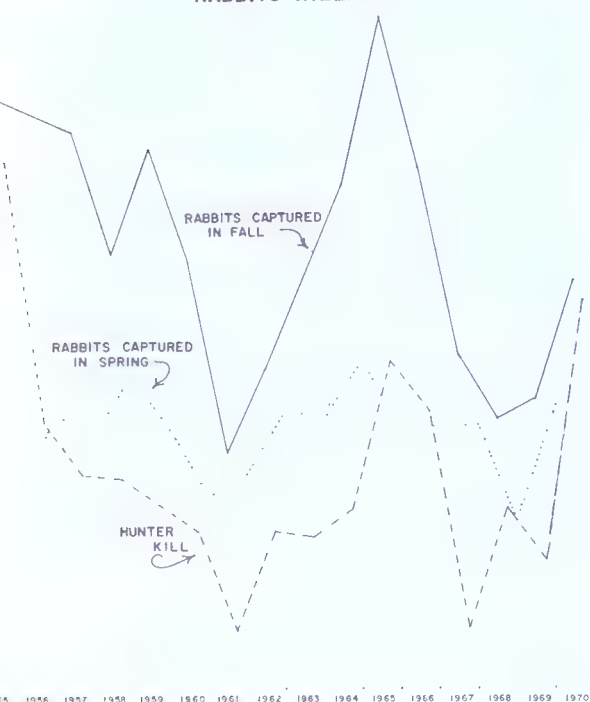


TAG IN EAR identifies rabbit for biologists, but can get lost easily, so inside of other ear gets an identifying tattoo which can't disappear.

using dogs were more successful than those without such help.

Do you know how to tell a male cottontail from a female? If not, don't feel embarrassed—most hunters can't. In fact, a lot of hunters think they kill mostly female rabbits because the sex organs of many males are within the body and do not show. With a little practice, it is no problem to determine the sex of a rabbit, be it a juvenile or an adult. A theory used in game management states that in years of population increases females outnumber males, while during decreases the reverse is true. This hypothesis has been confirmed during this study. The actual sex ratio in each trapping period since the study was activated varied from 62 percent female when the population was high, to 45 percent female during the low population. Overall, however, the average sex ratio for all years has been 52 to 48 in favor of females. In years of both high and low populations, the total number of positively identified male and female rabbits killed on the study area shows that 51 percent have been males and 49 percent females. Limited data indicates that males harvested during the extended winter season outnumber females by an even greater percentage.

NUMBER OF TAGGED RABBITS COMPARED TO TOTAL RABBITS KILLED



Apparently the best way to determine if a cottontail is an adult or juvenile is to weigh the eye lens, but some biologists question the reliability of this technique. It is impossible when working with a live animal, of course. After examining a thousand or so bunnies, we decided that, if a rabbit is less than 936 grams—33 ounces or about two pounds—it is not fully grown. Thirty-seven percent of all positively identified specimens harvested in the study were not fully grown. Seven percent more small females were harvested than males. On the average, female rabbits are a few ounces heavier than males. The heaviest bunny captured was a 60-ounce doe, and the average adult weighed about 48 ounces.

80 Percent Young Rabbits

About 80 percent of the population during any one year is made up of young rabbits. This figure has varied from about 70 to 90 percent in the past 15 years. There doesn't seem to be any correlation between population levels and the number of young. That

is, one year during a high population we found about 90 percent of the rabbits were young, but another high population year may show only about 70 percent juveniles. These percentage figures jump around during years of low rabbit numbers also. We can't be sure how old some rabbits are because they were of adult size the first time caught. But we have data on enough rabbits which were juveniles when initially captured to be pretty certain that the greatest percent of adults are only yearlings. Few ever live long enough to see two or three winters. Only three rabbits out of 2589 which were handled 5568 different times were $4\frac{1}{2}$ years old the last time they were trapped.

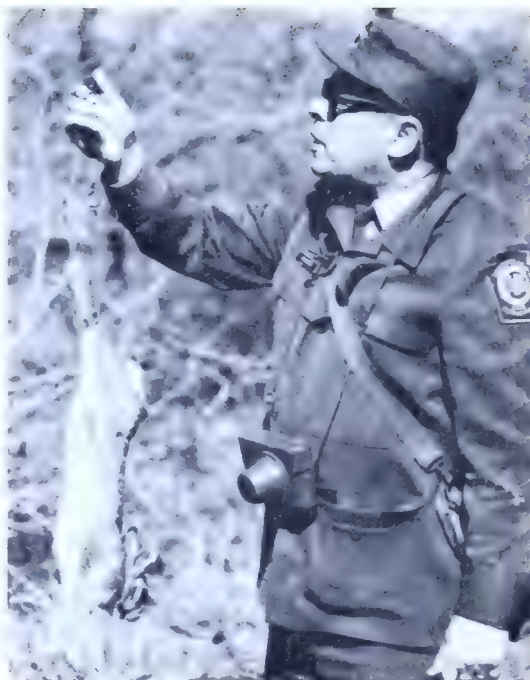
Enough data on longevity would not have been accumulated had we depended on ear tags alone to tell the age. We make doubly sure when a rabbit is marked. It is tagged in the right ear and tattooed in the left ear. The tattoo numbers correspond with the numbers on the tag. Sometimes a tag will drop out of a rabbit's ear; or perhaps it is attached too tightly and wears out, or it can be pulled out by brush. About half of the cottontails over yearling age lose their tags, as well as many which are tagged when they are tiny. When we come across a rabbit with a notched right ear it usually means it has been captured before. We then read the tattoo from the other ear. We don't rely strictly on the tattoo because many hunters wouldn't think of looking for one on the ear of a rabbit they bag, but they generally spot the tag. We also use color-coded tags for field identifications. Incidentally, the tattoos on the three $4\frac{1}{2}$ -year-old rabbits that were recaptured were clear and distinct—and the tags were missing from two of them.

Another question of interest was, how fast does a rabbit grow in the wild? For three years during the study we tried to trap rabbits as soon as possible after they were born. It is difficult to catch a rabbit in the summer,

but we were able to tag enough juveniles which wandered away from the nest when two to three weeks old, at which time they weigh about four ounces, and retrap them later, to determine their growth rate. It takes about 16 to 20 weeks for a cottontail, on this particular area, to reach adult size. It also appears, although data are limited, that rabbits born later in the summer reach the two-pound size in less time than it takes the earlier born bunnies. Why? We don't know. Possibly it is nature's way of getting all these animals ready for winter by allowing the late litters to catch up to the early ones.

Most of the 400 acres under intensive study on the Conemaugh Reservoir lands have been managed primarily for rabbits. Many land management activities, such as planting hedgerows to break up large open fields, cutting woods edges and growing conifers to provide winter cover, and cultivating food plots, have been administered. Other favorable habitat types occurring naturally have been managed to maintain their attractiveness to rabbits. Agricultural activities have also been encouraged by sharecropping a portion of the land. Certain small areas have not been managed

WHILE RABBITS are in hand, various data is recorded, including length of hind foot as shown here—a method of aging cottontails.



WEIGHT OF TRAPPED bunny is taken by biologist Wilmer Richter. Those under 33 ounces are considered not fully grown.

and have been left to grow normally. Biologists like to refer to these as "control" areas. Control areas have many uses, but the major one in this instance is to determine if a population change has been brought about by management or has occurred accidentally. If a rabbit population increases in a control area as well as in a managed area, the increase was due to factors other than those imposed by man. However, if the population increases in the managed area and remains stable, or does not respond to a degree as pronounced as in the control area, it can be assumed the increase was due mainly to management. Rabbit traps located in both the control and managed areas have shown that increases in the population have been noted in the managed areas while populations in the control areas have remained comparatively stationary.

Throughout the years of this study, records have been kept to show the relative effectiveness of traps in the various areas or cover types. The most effective traps—that is, the ones catch-

ing the most rabbits consistently—have been those placed in or adjacent to natural hawthorne or crabapple thickets which have been managed to retain their rabbit-holding capabilities by not being allowed to grow too big and too high. Other very good trap sites were those near multiflora rose hedges, abandoned apple orchards, along young pine plantations, and close to other kinds of hedgerows. The poorest trap locations were in open woods and close to the center of cultivated fields. Fair areas were along food plots, at field edges, and in weedy fields.

All data discussed in this article applies to southwestern Pennsylvania conditions. Had the study been conducted elsewhere in the state, results would probably have been slightly different. For instance, average weights might vary by a few ounces, or the more favored habitat types could be different. Hawthorne surely can't be the best place to find rabbits if the area is not ecologically suited to hawthorne. And age and sex ratios can differ slightly, depending on such things as kind of habitat, hunter use and climate. But in general the information should be fairly reliable for the Commonwealth as a whole.

A few other details uncovered during the study are of interest. On certain days almost all rabbits trapped were males. A few days later most would be females. Occasionally, we trapped individuals infested with ticks or fleas, and sometimes one had a warble or two, but these were never real problems. Most rabbits remained within a few hundred yards of where they originally were trapped, even after a couple of years. Once in awhile one was recaptured up to a thousand yards away, but generally when caught again it had returned to its original territory. Such rabbits probably were chased away temporarily.

We also learned that when a weather system remains stable—that is, if it stays clear and cold for an extended period or if the weather continues warm and rainy for a long time—rabbit activity generally lessens. But if the pattern changes, the day of the change often will bring increased activity. The only climatic extremes which caused definite inactivity in this area were heavy rains and/or high winds. These latter statements may be of interest to hunters who often wondered why their last outing was so different than previous ones on the same farm.

RABBIT TRAPPING DATA, CONEMAUGH STUDY AREA*

Year	Rabbits Trapped				Calculated Data		
	Spring		Fall		Total Population	Hunter Harvest	Percent of Population Harvested
	Male	Female	Male	Female			
1960	—	—	73	62	(Not calculated in 1960-61)		
1961	29	33	37	39			
1962	31	38	49	52	178	51	29
1963	40	47	38	51	291	49	17
1964	39	47	70	89	461	58	13
1965	39	65	103	108	476	104	22
1966	40	42	72	90	396	88	22
1967	37	47	46	48	176	21	12
1968	44	39	47	39	263	58	22
1969	26	28	45	47	150	42	29
1970	41	49	64	65	440	123	28

*Data accumulated from 1955 to 1960 was analyzed differently.

The behavior of rabbits is difficult to understand. You may not find rabbits above ground on a day that appears ideal, and conversely you may flush many on a day you feel they should be holed-up. But these are the

things that make this elusive little animal such a challenge to work with, as well as to hunt. One of the important things we have learned about rabbits in all these years is that there is still much more to learn.

Ferreting for Facts

By Dale E. Sheffer
Chief, Division of Research

THE OFTEN USED phrase "ferret out the facts" accurately describes a current program of the Pennsylvania Game Commission. A field study of the cottontail rabbit by the Division of Research involves the use of ferrets, and these weasel-like animals are being used on several study units in the state.

Present day activities and behavior of our popular cottontail rabbit is of great concern to the Game Commission as well as to the sportsmen of Pennsylvania. Collecting data about daily and seasonal behavior or activity patterns of cottontails living in a variety of habitat types is not easy. Live-trapping, daylight field observations, and radio-telemetry-equipped animals are three methods being used in conjunction with working live ferrets. Currently, three common types of rabbit cover are being studied: fertile cleanly farmed land, reverting agricultural land, and land managed specifically for rabbit production.

Flushing rabbits from woodchuck burrows through the use of ferrets has been at times rewarding, sometimes unsuccessful, and often humorous. It has been rewarding because many useful facts were learned from the rabbits handled. The unsuccessful phase refers to a great many rabbits chased from burrows but not caught, and the humorous incidents were frequent.

Wire cylinders with burlap bags attached are used to catch rabbits being chased from burrows. A rabbit pursued by a ferret is in high gear when it reaches the surface. The rabbit will often knock the cylinder from a biologist's hands, and on occasion the force is great enough to upset him.

Even traveling fast, a rabbit has an uncanny ability to see the slightest opening. If the entire edge of the cylinder is not flush with the ground, the rabbit can hit the opening and escape. Sometimes the person ends up outstretched on the ground, wearing an amazed look. Ferreting when the ground is snow covered permits many unexpected escapes and comical sights. Rabbits often burst through the snow where one has no idea there is a burrow exit. A few times rabbits dived into the snow after exiting, apparently looking for another entrance.

As many as 80 percent of the burrows checked contained rabbits on certain days, while on other days no rabbits were found.

So much has been learned via ferreting that many additional hours and days of this activity are planned for the future.

Documenting the behavior and activity of cottontail rabbits hopefully will lead to larger populations of these game animals and greater harvests by hunters.



Mostly About Amphibians

By Carsten Ahrens

Illustrations by Karin A. DeStefano

SALAMANDERS have smooth, slimy skins like frogs, but because of their long tails superficially resemble lizards, which are covered with scales.

Scientists, on their evolution ladder, place the amphibians on the rung above the fishes, which would be a step below the reptiles. A fish lays her eggs in water and the young grow up and stay in that medium. A frog lays her eggs in water but soon migrates to land. A reptile deposits her eggs on land though the entire rest of her life may be spent, like a sea turtle, in the ocean. There are exceptions, of course; some of the larger salamanders are entirely aquatic and breathe by gills throughout their lives. All of the amphibians, whether they have lungs or gills, have the ability more than any other animals of using the skin as a respiratory organ. Incidentally, their skin is the easiest way to distinguish them from their nearest relatives. Amphibians' outer covering is smooth, rough, or slimy, but it is never covered with scales as is true of the reptiles and almost all fish.

Amphibians fall very neatly into three groups. The caecilians are at home only in the tropics. They lack limbs, so are more or less wormlike, and unlike the others have tiny eyes. The anurans, or tailless ones, include frogs, toads, and tree frogs; the urodelans, or tailed ones, are the newts,

FROGS, salamanders, and their relatives have added spice to the lives of outdoor-oriented men and women everywhere. Winters used to be a lot longer when I was a boy, but that overly optimistic, enthusiastic chorus of frogs from every pond or ditch where the ice was melting always assured me that spring was just around a corner or two. If you've watched a little spring peeper make a bagpipe of himself, you've experienced weird music. While none of the tribe can be considered handsome, a few are so bizarrely colored or patterned as to be remarkable. This is particularly true of some of the tree toads (actually they're frogs), newts, and salamanders.

salamanders, mudpuppies, and hell-benders, all very much at home in the region drained by the Ohio River and its tributaries.

The Warty Ones

There's probably a toad in your garden. During the day it sits under a big hollyhock leaf, beneath a flower pot, or inside your bait can. At night it hops out to fill itself with cutworms, moths, earthworms, and the like, which she snares with her long, sticky-tipped tongue. A wise worm will play dead when a toad is near, for it apparently doesn't pay attention to anything that is motionless.

The toad's tongue is anchored at the front of its mouth, but the organ moves so fast that the human eye cannot follow it; there's just a streak of light and the beetle crawling past is gone. When she swallows a night-crawler, that's a different matter. It goes down in jerks, the four-fingered hands assisting. When the end of a victim disappears into the big mouth, the big eyes seem to aid her in swallowing. As if in gustatory ecstasy, they roll inward and backward, while eyelids, contrary to the way yours work, move up from below to close them. The black-and-gold eyes are quite as handsome as they were years ago when Shakespeare spoke of them as "jewels."

When a female toad is four years old, she makes a trip back to the pond in which she was born to lay her eggs. Accompanied by her mate, she swims slowly along the surface of the water, unreeling a double string of eggs that gracefully festoon the underwater vegetation like strands of pearls. At the moment they are laid, the eggs unite with sperm from the male. When 5000 or 6000 eggs are produced, her job is done. No parental care is offered, no attention is given the fertilized eggs. She hops back to her garden for another year devoted chiefly to food-getting.

The toad has few ways of protecting herself. She has no claws; they

appear for the first time in some of the reptiles. Her best protection is the drab, warty skin that helps her blend unseen into the environment. The warty glands on her neck are full of a bitter paste that dogs find most disagreeable. A puppy may bite a toad once . . . the elastic, adhesive, vile-tasting, unremovable goo instills a lesson that lasts a lifetime. If a snake approaches, a toad puffs herself up so she's too big to swallow. This trick seems to baffle snakes generally, except the hognose (he's a great pretender himself) snake. He will puncture the balloon, and then swallow the poor, deflated toad. The toad has another trick. She plays dead if you roll her on her back.

By October she's ready for a long sleep. She has shed her skin four times since spring . . . and has eaten her cast-off garment on each occasion. Now she's fat and ready for hibernation. On her hind legs are pebbly spurs, and with these she digs or "backs" her way down into the soil until she's below the frost line. If she's in loose sand, she can disappear from sight in less than a minute. It's as though she hears distant music and rumbas her way down to her bedroom. When spring returns, she finds her way to the surface and then hops back



TOADS HAVE DRY, warty skins, lay eggs in bead-like strings, and live chiefly on land. They lack teeth and well-developed hind legs.

to the old pond for her annual egg-laying chore. If she didn't know her way, the music from the males already there would guide her. She may repeat this trip many times; in captivity a toad has been known to live for 36 years.

The Climbing Ones

Tree frogs or tree toads belong to a group that includes some 150 species, at least six of which we have in northeastern United States. The smallest of frogs, some being hardly an inch in length, they are our only frogs that are at home in trees. They owe this accomplishment to the adhesive disks at the ends of their fingers and toes. The vocal power of these amphibian midgets is amazing. During spring-peeper-time they puff themselves up so while "singing" that a watcher finds himself holding his breath, fearing they'll pop! They look more like bubbles than frogs. They are often beautifully mottled and marbled to harmonize perfectly with their environment, so they're difficult to see.

The Smooth-Skinned Ones

Frogs are generally found in the vicinity of the water in which they were born. Toads may hop miles from their birthplace, but frogs tend to stay closer so that if disturbed a couple of hops and a leap will gain them the relative security of water. Their skin is smooth and wet; it permits an exchange of gases, and during hibernation this skin-breathing is all that is necessary for respiration. Unlike toads, they bury themselves in the silt and debris at the bottom of their pond. I worked with a road-building crew one winter that dug up scores of frogs, closely packed together in the mud.

Since frogs spend considerable time in water as well as on land, their diet is more varied than that of toads. They eat minnows, water and land insects, and snails. The biggest members, the bullfrogs (they may grow to a foot in length), are often cannibals. Multitudes of these big frogs are separated

from their hind legs which are served up to thousands of gourmands each year. Their lesser relatives, the "grass" or "leopard" frogs, are preserved by the millions and dissected in countless laboratories by biology students around the world.

The eggs of frogs are fertilized externally as in the case of toads; however, frogs deposit their ova in gelatinous masses, not in strings. They absorb considerable water so that the egg masses become swollen clusters many times their original size. The tadpoles are very fishlike at first, but soon the hind legs push through, then the forelegs. At the same time, the tail is shortened; actually it is absorbed and used as nourishment by the growing animal. The old yarn that the tail suddenly breaks off and often goes whizzing through the air is just an old yarn.

The Smaller Salamanders

These creatures superficially resemble small lizards but are much slower in locomotion, have weak limbs, and, of course, lack any sign of scale covering. They belong to the group of amphibians that keep the tail throughout the life cycle. Tracks of amphibians in mud are easily told apart. The tailless ones, the frogs and toads, can only hop, while the tailed ones, the salamanders, walk, leaving behind not only their footprints but also the groove made by the dragging tail. The newts, known in some localities as efts, are dark, more or less dotted, and

**The Game Law
Violator Is
Stealing From
You!**

are less than six inches long. They are born in water but soon migrate to land where they mature. They may journey far from home, but are always found in a damp, cool habitat, as under fallen trees, beneath decaying leaves, etc. After about two years abroad, they return to water for egg laying. They are more active during the day than other tailed amphibians.

The Larger Salamanders

Our salamanders grow from a few inches to 24 inches in length, so they're small in comparison with the giant salamander of Asia that grows five feet long. We have one lizard in the United States, the Gila monster of our Southwest, that has a poisonous bite, but none of our salamanders are so armed. Some of them do, however, secrete a toxic fluid through the skin that seems to repel some enemies. I remember, while hoeing peach trees as a boy, digging out four of the species commonly known as the "slimy" salamander. I carried them home to show my folks and shortly afterwards the upper epidermis of my hands sloughed off wherever the slime met my skin. The animals are usually found in the vicinity of streams, if not in water then under logs, stones, leaf mold, and debris in general.

Our two biggest salamanders bear the descriptive names of "mudpuppies" and "hellbenders." These are always aquatic although the hellbenders have been reported on the banks of streams. The mudpuppy can be distinguished by its rather dramatic arrangement of gills, external and reddish in color. They flutter when the animal is in motion, like a contrasting cape about the animal's gray-brown body. It grows to about 18 inches in length. Mudpuppies are found in the area drained by the Great Lakes, while the hellbender has a wider range including much of the Mississippi River and its tributaries. Last summer in the lower stretch of slow water down a mountain stream, three of us each found a hellbender on the stream bed.



FROGS HAVE SMOOTH, slimy skins, lay their eggs in masses, and live mainly in water. They possess teeth and well-developed hind legs.

I held my dark reddish-brown victim by its thick neck while it writhed and twisted itself about my arm. For all its muscular body, it seemed to have no way of defending itself. The animals may grow to two feet in length and lack the external gills that set off the mudpuppies.

Few in Number

As classes of animals rate in number of species, modern amphibians are well down toward the bottom. While the beetles of the world, for example, number in the hundreds of thousands, the amphibians can hardly scrape up 2000. Most of these are found in the tropics, although one frog makes its home within the Arctic Circle. The fossils of this group prove that the ancestors were larger in size and greater in numbers, so must have been more successful in competition with their peers. Now with the increase in pollution, the draining of swamps, and the wide use of insecticides (most amphibians are insect-eaters) their future is gloomy indeed, a fact we humans should ponder seriously.



Some Information and Advice for Beginners on . . .

Retrieving Dog Field Trials

By Nick Sisley

AS YOU MIGHT expect, the various tests devised to put retrievers through their paces are similar to hunting conditions, and this is as it should be.

Retrievers come in several different breeds — Labradors, Golden Retrievers, Chesapeake Bay Retrievers, American Spaniels, Irish Water Spaniels, Flat-coated Retrievers, Curly-coated Retrievers, and perhaps a few others. By and large, though, the Labrador retriever gets the nod, hands down, from most competitors in this form of dog sport.

Why? My observations are that Labs are amenable to handling and as a breed are bold and able to take constant and sometimes rough handling while learning their manners—the perfect manners necessary to get in contention at a trial. All the breeds mentioned have great noses, are strong

swimmers, love the water, and are exuberant.

Ranking second in numbers at trials would be the beautiful Golden retriever. His beauty always seems to draw an “Ah” from the gallery whenever presented to the line. The Golden is noted for having a mild disposition. He won’t take to training via the whip. Trying to so do usually ends up with a cowed canine. Golden Retrievers require patience and, as a rule, take longer to finish. However, there is an overriding tendency in this breed that cries out, “I want to please.” Many trainers and owners are partial to Golden Retrievers, even though they may have Labs in their kennels.

The Chesapeake is his own dog! Perhaps these simple words best describe him. He can be trained, yes. But by and large his forte is getting the

job done on his own. Many dog men like this trait. It gives a sense of independence that they perhaps try to portray in their own lives.

The other retriever breeds mentioned compete little if any at most trials. Not that they couldn't however. If you have a darn good dog, don't hesitate to enter him because he is not one of the three more popular breeds. If he is an American Kennel Club registered retriever, it is results that count. That is the only thing that the judges look for.

The Game Commission-controlled Pymatuning goose management area in Crawford County is the site of the Fort Pitt Retriever Club's trial each year. The Commission puts several portions of their many acres here at the club's disposal, and it is excellent grounds for conducting a field trial for retrievers. Water and land conditions are similar to those the ardent waterfowl hunter finds in typical duck and goose areas.

But now perhaps you are wondering just how a retriever trial comes off. It would be well to explain that there are four different types: open, amateur, derby, and qualifying. An open stake is for all-age dogs and is open to any handler, professional and amateur alike. Points are awarded toward field champion standing. All stakes are run under rules of the A.K.C.

Amateur Events

Amateur events also are open to any all-age dog, but are limited to amateur handlers—those who have never accepted remuneration for handling. In these, points are awarded toward making amateur field champions. Derby stakes are limited to dogs under two years of age. As one might surmise, completely finished performance is not expected here, but you may be surprised at how good these young dogs are, and how little separates them from the all-age competitors.

Finally, there are the qualifying stakes. These are for dogs not quite ready for all-age performance. The

tests and standards are not as stringent. Once a dog places so many times in qualifying events, he can no longer enter these competitions but must go into the all-age stakes. This insures that once a dog reaches a certain level of training, he doesn't keep on competing in stakes beneath his capabilities.

As to tests the dogs are actually put through, much leeway is left to the discretion of the judges. Two requirements are that a dog must "honor," and he must retrieve through decoys. To honor means to sit mannerly while another dog is put through his retrieving paces. The purpose is to show that if he is in a duck blind with another dog, he will perform as required. He is to retrieve when commanded, never to bolt forth on his own.

Most waterfowl hunters use decoys. If you down a bird and send your dog for a retrieve, you cannot have him fetching in a tenite greenhead instead of the real thing. Consequently, the rule requires a dog to fetch through the imitations.

Judges contrive several kinds of tests to let the dogs show their mettle, but there is often little uniformity. Among the tests are usually a land triple (three birds brought to hand individually, on command), a water triple, a



THE LABRADOR IS the most popular species at retrieving dog trials, but the Golden Retrievers, Chesapeake Bays and others have devoted followers too.



THIS IS A SHACKLED duck—the gunner is firing blanks. Dogs must sit mannerly while watching this, not starting the retrieve until ordered.

water blind and a land blind. A “blind” is a bird that is not seen by the dog. It is planted when he is out of sight. The handler directs the dog to the bird via hand signals.

Starting to get a mental picture of all this now? If not, here is a word description of a “typical” open or amateur series of tests that the “typical” judge will want to see the canines go through.

The “line” is first decided upon. This is where the handlers and judges are stationed. In the actual hunt, it would be the duck blind. It is also the spot where the dog is brought and where he sits mannerly while the birds are “thrown.”

The judges first place a “gunner.” Let’s say he is slightly to the right of the line, about 100 yards off. With the gunner is a bird boy. The bird boy throws an already dead mallard or pheasant, or a shackled one. (In some cases live birds are used and shot by the gunners.) In this case, figure the bird is a dead pheasant. The bird is

tossed high into the air, so the dog can see it, the gunner fires a blank at it, and the bird falls into some tall grass bordering a plowed field. The shot draws the dog’s attention to the area, and he must then “mark” the bird as it flies through the air and drops.

Another gunner and bird boy are stationed about 85 yards out, quartering to the left of the line. Here a live pheasant is thrown, the gunners drop it, and it lands in a plowed field. The dog sits mannerly through this shooting. At a signal, the judges acknowledge that the dog may then proceed. On the handler’s signal, he does so.

He fetches the “flyer” first, sits at the handler’s side, and releases on command. He is then directed to retrieve the second bird. Meanwhile, a dead bird has been planted at a spot some 125 yards distant—a blind. The handler requires the dog to sit quietly, then gives him the line on where the “blind” bird is, simply by pointing. He next commands the dog to fetch.

If the dog goes too far left or right, he is stopped with a whistle. The dog turns to watch the handler and sits. The handler directs him by hand signals in the proper direction, which might be in, back, right, left—or even quartering back or in. These dogs are so well trained that persons attending their first trial will be utterly amazed at the almost human response to locating these “blind” birds.

But finally this bird is brought to hand. Next the dog is required to sit mannerly while the birds are thrown and the guns shot for the next dog in competition. After the second dog is well into his retrieving paces, the first dog is permitted to retire from the line.

What do the judges look for? Number one is how well the dog marks his birds. The more direct line he takes to where the bird actually fell, the more the judges will favor him. Other attributes are important, too. How he reacts to the whistle and hand signals, his nose, his “huntability,” his style, manners on the line, the delivery of the retrieved bird, and more.

When all the dogs have individually been put through the first test, there will be some that just didn’t have it this day. These the judges drop. They call back the dogs which showed they were worthy for the second test.

Let’s figure it is a water blind. A bird is planted about 110 yards out in a marsh, and the dog must swim to it. The handler knows where the bird is, but the dog doesn’t, just as in the land blind previously described.

All the dogs go through this test individually and, as in the first test, some are dropped. The judges now devise a third test or series. This one, perhaps, is a land triple. Two are dead



SPLASH AT RIGHT is a dog starting his retrieve. Dog still on the line is waiting motionless while the other shows its form.

birds and the last is a live “flyer.” One bird must be retrieved from a plowed field, another from some high hay grass, and the final one from soggy marsh grass.

On the line, the dog is sitting mannerly and ready to mark his birds. When he is, the handler gives a signal to the judges, who in turn signal each of the gunners and bird throwers. When all three birds are on the ground, the judges signal when the handler may order the retrieve. Each is brought to hand in turn, and the dog sent for the next one.

Again, all the dogs aren’t of equal quality in this series. Perhaps several didn’t mark their birds with accuracy, perhaps another broke for the retrieve before being ordered. At any rate, several more dogs are dropped and the judges devise a fourth series, perhaps a water triple.

One gunner and one bird thrower are in a boat in a ducky-looking pond. On signal, they shoot and throw a “shackled” bird (wings and feet are tied so he can’t fly or swim, but the birds are not injured and can be used again) into a conglomeration of lily pads such as are often seen in a duck marsh. Another gunner and bird boy are 85 yards away quartering left of the line. They are on the edge of the

Give

GAME NEWS

To a Friend . . .



A CHESAPEAKE BAY retriever finds the going easy here. This tough breed can go all day, retrieving waterfowl under the worst winter conditions.

shore line, and the shackled bird they toss goes well out into the pond into likely looking cover.

The final bird in the triple is a live mallard. He flies over the pond and is shot by yet another gunner; this one, however, is firing live ammunition instead of the blanks the gunners use on lead or shackled birds.

As icing on the cake in this acid test, a dozen decoys sit on the pond between the line and the shackled duck that was thrown first. On signal from the judges, the handler starts putting his dog through the retrieving

paces. He will usually take the flyer first, but there is no rule here.

As you can well imagine, a few more dogs are eliminated during this series. But by now the judges have probably seen enough. If they have, they will call a halt and announce the winners. First, second, third and fourth places are awarded, plus as many "Judges Award of Merit" as they deem appropriate.

If the judges aren't quite decided, they may devise yet a fifth series to find the dog that does it best. In fact, the number of tests is entirely up to them. There is nothing sacred here. Six, seven, even eight tests or series have been necessary in some field trials.

The very best dogs are often in the thick of things right up to the end in trial after trial. But no dog does a perfect job every time he is put down. There is always an unpredictable "chance factor" when an animal must face a given situation.

But this is what makes the field trial game so exciting and rewarding for the participants. At least that's part of the reward. Knowing your dog did a darn good job is another factor, as is the fact that your participation in field trials has made him a better hunting dog. He's gotten more experience, more training, and he's been with you, his master, far more than those who only enjoy their sport for a month or two each year.

GAME NEWS Price Increased

An increase in the price of GAME NEWS was approved at the October meeting of the Pennsylvania Game Commission. Effective July 1, 1971, subscription prices for the magazine will be \$2 for one year, \$4 for two years and \$5 for three years. Single copy price will be 25 cents. Subscriptions at the current price of \$1.50 per year or \$4 for three years will be accepted, to a maximum of three years, through June 30, 1971.



THESE CHUNKS OF PURE JASPER, arrowheads and spear points were found in vicinity of Vera Cruz.

Redman's Gold . . .

THE JASPER PITS AT VERA CRUZ

By Tom Fegely

AN ICY SPRING shower, accompanied by lightning and thunder, urged me across the freshly plowed field toward the rocky woodlot. As I was bracing a camera against my chest and casting an occasional downward glance, an odd-shaped form lying atop one of the furrowed heaps caught my eye. Scooping it up and slipping it into my jacket pocket, I continued across the rippled field, through the woodlot and back to the shelter of my car.

It wasn't until that evening after wiping off my camera and climbing into dry clothes that I remembered the yellowish-brown object in my pocket. It was an Indian arrowhead. Not unusual in itself, except that the small, rocky woodlot I had gone

through to reach the car was once an important landmark where Pennsylvania Indians excavated valuable jasper. The jasper from these Vera Cruz pits eventually found its way up and down the eastern seaboard from Maine to Georgia and south along the Potomac River.

A Variety of Quartz

Jasper is actually a type of quartz, displaying various shades of red, yellow and brown. Fine-grained and opaque, it was ideal for Indian weaponry since it fractures into sharp-edged pieces. Jasper contains hematite or limonite, which accounts for its characteristic color. Occasionally agate-jasper, containing small veins of

white chalcedony or "bleeding jasper," coated with tiny red quartz crystals, is discovered.

The small Lehigh County community of Vera Cruz, immediately south of Allentown, is the location of what was possibly the most important jas-



EXPOSED CHUNKS OF jasper and quartz at the Vera Cruz quarry. Indians mined here by primitive methods several hundred years ago.

per quarry in the Keystone State. Over 300 years ago Delaware Indians discovered this site and other smaller quarries in the surrounding hills. Before long over a hundred open pits were in operation at the Vera Cruz quarry alone. Word spread throughout the East and tribesmen traveled along the Delaware and Lehigh Rivers and over the network of trails crisscrossing the Appalachians to reach the jasper deposits.

The Indians found jasper ideal for arrowheads, spear points, axes and other tools and weapons. As much of the valuable mineral was taken back to the villages as could be carried. This necessitated ridding the large chunks of waste and fashioning "blanks" from the useful jasper. In fields surrounding the quarries, the ground is mixed with jasper chips which were discarded during preparation of the blanks. Farmers plowing these fields today frequently turn up

new specimens, accounting for my lucky find on that rainy, spring afternoon.

Crude Tools and Indian Ingenuity

In all tribes there were skilled craftsmen, designated as arrowsmiths, who were particularly adept at chipping the blanks into finished, usable items. The braves who traveled to the quarry site must also have been masters at their trade. The question arises, "How were the pits dug and what methods and tools were used to fashion the blanks?" The Indian lacked modern man's digging tools and since jasper is a hard material it could not be broken up by ordinary hammering and chiseling.

The answer lies partly in the use of crude tools manufactured or found on the spot. According to an article in the June, 1970, issue of *Pennsylvania Geology*, of the more than 100 pits operated at the Vera Cruz site, a few were as deep as 30 or 40 feet with a diameter of over 100 feet. Poles of various sizes, charred and sharpened, were used to scratch the ground and pry up the jasper. Quartzite implements, found naturally with the jasper, were used to scrape away the boulders. Deer antlers were used as pick-axes and as "chisels" in helping to break up the chunks.

Fire-Fracturing Methods

Once the larger boulders of finely grained jasper were brought to the surface or an outcrop was exposed, it was fire-fractured. From scattered fragments of charcoal found at the site, it can be reasoned that the boulders were heated and consequent expansion broke down the large chunks into smaller pieces. Very likely cold water was poured upon the heated jasper to further facilitate the task. Many chips which turn up today are found some distances from the quarry site, indicating that the workshops for finishing the crude products were located at more comfortable or favorable places.

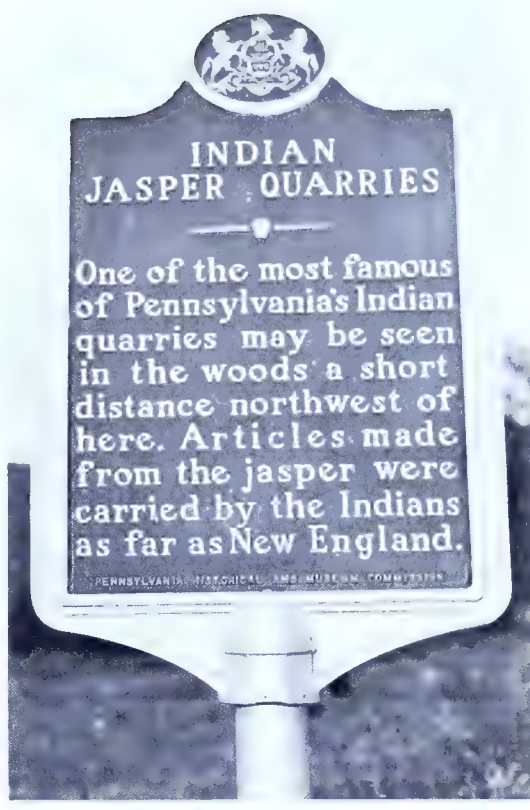
No tribes seem to have established permanent residence at any of the jasper quarries, either at Vera Cruz or other smaller pits in the Reading hills. Accumulations of cooking wastes, fire traces and other evidence, however, clearly indicate that the immediate area was used for long periods of time during mining operations.

Sacred Grounds

The story is told of two Wyoming Valley tribes who were at war with each other and ran out of weapons. A truce was called and braves from both tribes traveled to the Vera Cruz pits. There they sat side by side chipping jasper and fashioning arrowheads. When each had accumulated a sufficient supply, they returned to their upstate territory and resumed the war.

Today the Vera Cruz jasper quarry appears, at first glance, no more unusual than any other woodlot. Dense undergrowth and good-sized oaks, tulip poplars, beeches and maples grow from the depressions carved over three centuries ago. In 1892, an old stump showing 195 rings was recorded in one of the pits, dating the workings as ending sometime around 1680 or 1690.

Many of the larger pits were destroyed in the name of progress when the Northeast Extension of the Pennsylvania Turnpike cut through the westernmost part of the quarry. The community of Vera Cruz, however, has built a public park, appropriately named "Jasper Park," around the remaining pits. Removal of jasper is prohibited so that the hundreds of



children visiting the site each year can get a more accurate picture of what the mining operations were like. Charles Treichler and Frank Hasik, local residents whose desire it is to keep alive the rich mineral and cultural heritage of the quarries, display their collections and relate tales of the jasper pits to the visiting youngsters.

Unknown are the thoughts of the first Delaware brave who fitted a sliver of jasper to a stick and tossed it at an unsuspecting deer—or enemy. Had he known the catastrophic end which was to befall his people due to weaponry more sophisticated than jasper-tipped arrows, perhaps the quarries would not have received such extensive use.

Educational TV Show Scheduled

An educational television production is being presented by the Pennsylvania Game Commission every other week. The 30-minute program, *Pennsylvania Outdoors*, will be seen at 7:30 p.m. every other Wednesday. It is scheduled to be available through the seven educational stations of the Pennsylvania Public Television network, assuring statewide coverage. This program, in color, will alternate on Wednesday evenings with *America Outdoors*, a similar program. Both productions will be hosted by L. James Bashline, former GAME NEWS editor.



*Sometimes . . . From Out of the Distant Past . . .
I Hear the Sound of . . .*

Dad's Hunting Horn

By Al Shimmel

THE HORN IS silent now. It hangs beside the shelves of books, his books and mine. The leather thong by which my father carried it is brittle now with age. It came to me because I was the eldest of five sons. I touch its polished surface with my hands and let its magic do its work. It seems but yesterday. . . .

I tipped the shock of corn, pulled away the rye straw band and spread the fodder so the ears would be within easy reach. A leather thong held the hickory husking-peg snugly against my palm. It had been made by my grandfather and I treasured it. The polished point slipped smoothly through the husk. A twist broke the ear free to be tossed aside. The whole operation was smooth and effortless.

Pepper, the farm Airedale, lay protectively beside the jacket I had discarded soon after sunup. Behind were seven piles of golden ears, husked from as many shocks. I was well pleased with my accomplishment.

A Monarch butterfly paused briefly on the tip of a frosted weed, oriented its wings to the sun and then resumed its journey south.

The husking was mechanical. I watched a gray squirrel as it moved cautiously down the rail fence. At the corner it paused for a long look before it jumped to the ground. Pepper saw it. Before it reached the nearest shock, he had leaped away. The margin of safety between the streaming tail and Pepper's gleaming teeth was reduced to a minimum by the time the frightened gray had reached the oak that stood beside the fence. Although the oak offered ample sanctuary, the squir-

rel was so unnerved that it continued its flight through the upper branches of the timberlot until it lost itself among the crowns.

Pepper came back, flopped down on the jacket, wagged his abbreviated tail, and looked up with a doggy grin for my approval. In two weeks the season would open and together we would bring the squirrel population within reasonable bounds. After young corn-fed squirrels had been subjected to my mother's alchemy they would have delighted the most critical gourmet. To my youthful taste they were pure delight.

The thought of food made me aware of the empty void above my belt. A full hour lay between me and my dinner. A flock of geese passed overhead, their cadenced chant muted by the height. As if in answer came a single bugle note. Topper, my tall lemon-and-white Walker, was feeling the tug of the season and growing restless under restraint.

Hunger in Eyes

I remembered the day when Cy—woodsman, sawyer, farmer and fox hunter—had seen the hunger in my eyes and given me the pup, a pup I could not hope to own for lack of funds. There were the anxious days of growing up and being proofed against the fox hound's greatest sin of chasing deer.

The day of testing came. With Dad and Cy I climbed the steep of Turner's Ridge and found a big red's track, etched deeply in the snow. I was as anxious as the tall young hound that tugged against the leash and begged to be free. The restraint of wiser heads



held both of us, while they debated a course of action. Cy gave the word. I barely touched the snap and he was gone, a leggy, lemon-and-white hound—my hound—lost in the snowy whiteness of the woods, yet not for long.

A strange new voice echoed in the woods and rolled across the valleys . . . a heavy chop, as steady as a marching drum, not quite a bass but deeper than a baritone. The prickles chased each other up by spine. I stood spellbound. My pup was now a hound, a fox hound, announcing to all ears that a fox was up and gone away.

Suddenly I realized that I was all alone. Cy's track led north across the ridge, heading for the stand a mile away. Here a rail fence separated a strip of open woods from a thick slashing piled with brush. A walnut tree guarded the prop-road where it met another from the slash. More than one fox had met a gunner hidden there.

Dad had gone west toward the Sandy Wash where driven foxes left the fields for safer runs among the

rocky hills that bordered Morgan Run. The cry was fading fast. A jay screeched at me from a tall pine. I was alone.

Youthful curiosity drove me to learn just how the chase began. I followed the snowy trail, a hundred yards, then two. Beside a stump within a laurel clump, I found the bed where the fox had curled up to rest after a night of hunting. The tracks were bunched and far apart. At times the sign was overprinted by tracks of larger size. The pup had jumped his fox and true to his inheritance was running the line. I was pleased and proud.

I angled up the ridge and moved toward the point. Somewhere beyond the farther hill, the rolling echoes told, the fox was running hard, and not too far behind Topper was drinking in the scent and driving true. Again I knew the tug of pride that comes when all is well.

An hour later, after I had crossed the head of the hollow and walked far on the adjoining point, I heard the chase turn back. There had been times when driven foxes ran the rocky ledges below my stand to fool the hounds. Perhaps this fox would come my way. I found a place against an oak that broke my silhouette and settled down to watch and wait.

Once, far across the hollow, I glimpsed an orange speck skirting the sweet fern clumps that dotted the high field. For a few minutes my pulse quickened as it came my way, but soon it turned and once again was lost from sight beyond the hill.

Sound Toward Sandy

An hour passed. A solitary crow circled high then, pitching down, settled in a hemlock top that grew below the ledge. It called a time or two then quieted down to take the sun.

Suddenly the valley came alive with sound. I marked it as it moved toward the Sandy Wash where Dad was keeping watch. Dad's Parker roared, then roared again. I caught a glimpse of color through the trees. I saw it

stumble, recover, then streak toward the ledges. Topper came, driving hard, less than a hundred yards behind. Then silence came. The fox had gone to ground.

We found the den beneath the rocks. Topper sniffed, whined disgustedly, turned and waved his tail. Soon Cy came striding through the woods. He praised the hound. The shot had been at extreme range. There were trifling traces of blood. The fox had lost a toe!

I was brought back to reality by crows diving and shouting as they circled the object of their anger along the far side of the field. A fox broke from the weeds and raced toward the safety of the woods. The sable mischief makers streamed along behind.

I blinked my eyes. It seemed as if my thoughts had conjured up reality. Three years had passed. Three years in which Topper, running either singly or with Cy's brace of hounds, had grown and hardened into a seasoned veteran. During those winters, lesser foxes had fallen to our guns, but the

fox with the missing toe had somehow eluded us. We chased him regularly. Sometimes we glimpsed him from a distance.. This was a phantom fox. Instinct told him where each pitfall lay. He kept his fluffy coat from peril by his wits. . . .

The fox was gone. Dad's hunting horn called me from the field. Topper bugled, knowing I would stop awhile. Pepper got up from his bed, trotted a few steps and then looked back to see if I were following. . . .

I dared to tuck only the tips of my stinging ears under the upturned flaps of my cap. I hunched deeper into my heavy jacket. As far as I could see or hear, everything was white, everything was silent. The stock of the single-barreled "Long Tom" was tucked under my arm, and my mittened hands sought the warmth of deep pockets. My breath hung in white clouds. I shivered, partly from cold and partly from anticipation. I waited and listened with as much patience as I could muster. Somewhere beyond the

A PARTLY DECAYED PINE STUMP STOOD at the edge of the rhododendron. The fox had curled up on it and was watching the dogs on the thin ice.



ridges a fox was afoot, and after him were three fine hounds.

With hoarse croakings a pair of ravens circled down from the rocky cliffs behind my stand. They dropped into a hemlock thicket farther down the valley. One of the red-clad host of deer hunters had bungled a shot. Ravens and foxes would see that nothing went to waste.

During the autumn, while we were conditioning the hounds against the rigors of the winter hunts, the old familiar fox was absent from his usual haunts. Our apprehension grew when in the first snow we found no trace of his distinctive track. We speculated. Had he fallen victim to some trapper's hidden steel? Or had some irate farmer seen him over a gun barrel when he passed too near a barn or poultry house?

Track Found

When, during deer season, we found his track among the rugged hills several miles to the west of his former range, we felt relieved. We had marked him for our own. His track in company with a smaller one led us to suspect that romantic reasons had prompted the change, although the mating season was some weeks ahead.

After deer season closed we turned our attention to the foxes. The three-toed red held our special interest. Twice we moved him and both times the elements intervened. The first chase ended when the heavens opened and let loose such a deluge that the snow became a sea of slush that washed away every vestige of scent. The second came to an end when the air chilled and the wind blew a gale. We finally found the weary hounds as they trailed tediously through the hemlock and rhododendron thickets of Little Creek. We tried our best to head the fox, but in vain. Defeated, we caught up the hounds and made our way wearily home.

Although these runs had ended with advantage to the fox, we found a small point of encouragement. As in previ-

ous years he ran unpredictably. He avoided the regular crossings, making each run over a different course. There was one small exception. He used a fallen log when he crossed Morgan Run on his way to the Jack Pine Flats. Within gunshot of the log the stream had piled flood drift to make a perfect hide. Both Cy and I agreed that Dad should guard this likely spot. . . .

An hour passed. I watched a band of chickadees as they worked the branches of a pine, tittering all the while in spite of the cold. When they were gone I had a glimpse of a pair of jays flitting here and there, seeking mischief. Occasionally, from the hemlock thicket far below, I could distinguish the guttural croakings of the feasting ravens. Over everything lay an aura of expectation.

I was wiggling my toes for the hundredth time to determine whether they retained communication with the rest of my anatomy when I caught the distant murmur of the hounds.

Cy's Spider had a clear soprano yodel that carried far and formed a counterpoint against the deeper tones of Butch and Topper. Soon they broke over the ridge and I could distinguish their individual voices. I never heard such melody. Instead of heading for the crossing log, they cut along the ridge and turned down toward the stream.

From my vantage point I saw the fox drop lightly from the high bank and with a flirt of his magnificent brush turn up and away, far out of gunshot range. Daintily he picked his way along the thin edge of the ice, so close to open water that no hound would dare to trust its weight to such a brittle, slippery path. At a narrow spot he leaped to the other bank and then turned back toward the crossing log. Some distance down he found a bridge of ice and crossed the stream again. His movements showed his self-assurance. I smiled as he plotted how to shame the hounds. He turned toward the hounds, then disappeared under an overhang of the cutbank.

Minutes later, farther down the stream, I saw what I took to be another fox, weaving among the tangled roots just out of range of Dad's driftwood blind. Again it disappeared under the overhang.

A pine stump stood at the edge of the rhododendron. In its partly decayed top I saw the fox. The rascal had curled its brush around its feet and was lying with its nose and ears above the rim. It watched the stream with confidence, certain it had once more tricked the hounds, as so often had been done in the past.

I felt the urge to leave my stand and try to slip within gun range, but better judgment held me to my place. I was content to watch.

The hounds came streaming down the hill, paused before leaping to the ice. For a second it held, then broke under their combined weight. There was a melee of threshing bodies before they scrambled out to firmer footing. They fanned and cast about. Occasionally one found a trace of scent. The others harking in would break the ice and all would once more scramble for drier ground. A quarter hour passed. They worked industriously but made little progress.

I looked again toward the fox. Its head was lifted higher now to better watch the hounds. I thought I saw it grin. They do, you know.

A puff of snow dusted the snow. The report came tardily. The fox pitched out and down, lay kicking in the snow. I saw Dad climb the bank. He stood a moment looking down. I saw him lift the polished horn. The hounds came homing to its mellow sound.

Once more he blew the call. The phantom fox would never trick the



DAD SLOWLY RAISED his horn. The mellow sound carried across the hollow far below, hung in the air, then died. Silently we turned away.

hounds again. I heard the ravens cry. Then silence. A bit of sadness came then left an empty place among the snowy trees.

We climbed the long trail out of the valley to the hill. The fox lay over my shoulders, its brush hanging down my chest. On the ridge we stopped to rest. Topper crowded close. He raised his head. I rubbed his ears. His eyes held a deep steady look, the hunting look that houndsmen know. Dad slowly raised his horn. The mellow sound carried across the hollow far below, hung in the air, then died. Silently we turned away.

And That's a Big Bird!

The California condor, largest living bird of North America, attains a wingspread of nine feet and a weight of 20 pounds.

Some Penns



FRANK TOKI, above, Mentor, Ohio, with his 16-lb. Somerset County gobbler. Below, John Mortimer, Knoxville, was only nine when he took this hen on his father's farm.



JEFF FORBES, below, collected his 18½-lb. gobbler in Elk County during first year of hunting at age 12.



CHET TROUT, Lingles-town, above, took his 20¼-lb. gobbler in Perry County. Lee Hartman, below, Gettysburg, with his Adams County turkey.



ia Turkeys



MRS. VIVIAN JACKSON, above, State College, got 21-lb. gobbler near Bear Meadows. **Bill Schmader**, Canton, Ohio, below, and another 21-lb. g o b b l e r, from Jefferson County.



MRS. DON KAIREWICH, Weatherly, got 18-lb. gobbler on Broad Mountain, while her son, **Donald**, below, bagged hen near White Haven.



HENRY SWEITZER, Salingo, below, got this 20-lb. gobbler during 1970 spring season in Bradford County.





FIELD NOTES



All the Time Problems

CLINTON COUNTY — During my recent confinement in the Jersey Shore Hospital, one of the nurses noticed that my roommate, Floyd Paulhamus of Salladasburg, and I were reading **GAME NEWS**. She asked if we enjoyed it, if we read it much, etc. When asked why she was so interested, she replied, "My husband doesn't talk to me the day that darn **GAME NEWS** comes until it has been read from cover to cover."—P-R Leader C. M. Laird, Avis.

Out of the Mouths of Babes

POTTER COUNTY—Never underestimate the mind of an observant youngster. While I was checking deer jaw bones, my six-year-old son Richie picked up one and unhesitatingly said, "Hey, Dad, this one didn't brush very often—look at the cavities." — District Game Protector H. R. Curfman, Coudersport.

Ain't It the Truth?

HUNTINGDON COUNTY — It finally happened. After losing several road-killed deer in this particular area, I, at long last, received the phone call every Game Protector waits for. The caller had hit a deer and called the State Police. They in turn called me. Just as I was going out the door, the State Police called back and reported that the man who hit the deer had called them again and said that two men had just thrown the deer into a pickup truck and took off. He gave a good description of the vehicle and I immediately checked it out. Would you believe Deputy Tom Wilson had been reported for taking the deer? It seems that we just can't win.—District Game Protector E. N. Gallew, Alexandria.

It's Pop Who Pays

ERIE COUNTY—Clifford Troyer, a farmer with many acres open to public hunting, has several beaver dams on his place and his young sons became interested in trapping beaver. One morning they caught a 57-lb. beaver (with Dad's help) and since then they have caught several more not quite so large. Mr. Troyer decided he would like to have a beaver coat made for his wife, so the sons have agreed to "sell" him the pelts and when the coat is made up "they" will present it to their mother. Sounds like a good deal for everyone except father, but of course fathers are always the ones who pay! — District Game Protector E. D. Simpson, Union City.

No Feelings in Nature

ERIE COUNTY—The truth of the saying, "Nature in the raw is seldom mild," was borne out by a recent incident reported to me. John Munro, of Girard, was hunting when he noticed a squirrel's head sticking out of a hole in a tree. Something about it didn't look right, and he thought it was dead. Reaching up, he tried to remove it and thought that it was coming out awfully hard. Then he saw that he had two squirrels, and both were dead, their tails twisted together in what seemed a hopeless mess. This had caused their death—a slow, lingering one. The bitter irony of the story is this: After John removed the squirrels from the hole, he hung them over a bush. Almost immediately, they began to spin. The tails unwound and the squirrels fell to the ground separately. How they got into their predicament, one can only guess. CIA Bob Parlamen tells me this is the second time in three years such an incident has been reported to him.—District Game Protector R. W. Meyer, Fairview.

The Living and the Dead

SNYDER COUNTY—As the ice began to break up on the Susquehanna River, I received a call that a deer was afloat on a piece of ice. Deputy Fisher and I put in a boat and encouraged the deer to go for shore while Trooper Jordan of the State Police held up traffic on busy Route 11. With a mighty effort the deer made the shore, to the relief of many people who had gathered to the area. I am sure all the people who were concerned for the safety of the deer would be saddened to learn that on the same piece of ice the deer had used were the skins of two whitetails that some poacher must have thrown from a bridge at the moment the ice carrying the deer passed underneath.—District Game Protector K. W. Dale, Middleburg.

One Truck . . . Seven Deer

VENANGO COUNTY—On Sunday morning, February 21 at 2 o'clock, Deputy Joe McNany of Scrubgrass Township received a call from the Franklin State Police Barracks saying several deer had been hit by a truck on Interstate 80. Joe, like hundreds of dedicated deputies, climbed out of bed and went to the scene. He said there were deer on the road, deer hanging on the guard rails, and deer down over the banks. It took almost two hours to pick up seven deer killed by a single truck. Joe hopes no more Sunday meetings like this are held in the middle of I-80.—District Game Protector L. E. Yocum, Oil City.



All the Comforts

FRANKLIN COUNTY — Cold weather does not bother all squirrels. Lieutenant Commander N. W. Shriver of the U. S. Navy has a farm in Horse Valley that he uses as a weekend and summer home. He was at his farm recently to do some repair work and went to a shed where he had some insulation and corn stored. He found that a lot of the insulation had been stripped from the backing. Squirrels had built a nest with it, complete with a supply of corn. What squirrel could ask for a better home?—District Game Protector J. D. Mort, Chambersburg.



Handy Hideaway

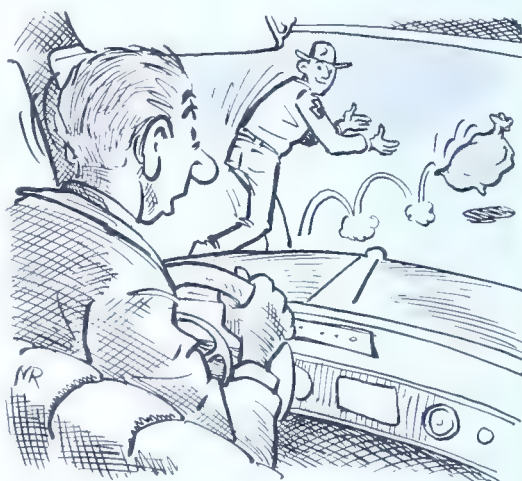
CRAWFORD COUNTY—Last fall several pairs of mallards took up residence on a pond near Deputy Stanford's place. They stayed quite awhile but finally left for warmer climates. At least that's what Stanford thought, until one day he saw a hen on the pond. Her mate had died about a month before. As he approached, the hen disappeared under water and did not come up again. After waiting quite awhile he went to the old abandoned springhouse and opened the door. There was Mrs. Mallard swimming around her indoor pool. She had found an underground waterway between the pond and the springhouse which she used the remainder of the winter when danger approached. I wonder how many confused foxes, raccoons, etc., she left standing on the bank in the past few months?—District Game Protector J. R. Miller, Meadville.

Victim Heard From

WESTMORELAND COUNTY—Explanation of how a hunting accident occurred, as submitted by the victim: "A rabbit ran between us and he shot, hitting me in the left leg. I yelled, 'You so and so, you shot me!' He said, 'Oh my gosh,' and ran away."—LEA E. W. Campbell, Ligonier.

How's That Again?

SOMERSET COUNTY—Sometimes things become quite complicated. This past season, a Deputy Game Protector checked and apprehended two nonresidents hunting antlerless deer with just the antlerless tags. During the investigation it was revealed that these tags were borrowed. We found that the persons to whom the antlerless licenses were issued did not live at the address given on the regular or antlerless license applications. Further investigation revealed that they were not residents of Pennsylvania.—District Game Protector J. Burns, Jr., Central City.



Hopalong Who?

WARREN COUNTY—During this past season for trapping rabbits, an unusual thing happened. While I was at the post office, the father of one of the boys doing the trapping came in. He told me he had put a rabbit in a burlap bag and placed it on the hood of my car which was parked out front. On leaving the post office, I looked immediately on the hood of the car but nothing was there. Next my attention was focused on a burlap bag hopping across Main Street in Tidioute. Imagine the surprise of the motorists when traffic was stopped by me rescuing a "hopping burlap bag."—District Game Protector D. C. Parr, Tidioute.

The Good and the Bad

PIKE COUNTY — Encouraging sights in the middle of the winter: The robin that was sunning itself on the south side of my roof on February 3, with the temperature near zero; the chipmunk sitting on a twig after burrowing up through two feet of snow on February 18; the woodchuck running across a field covered with over a foot of snow on February 19. Discouraging sights also seen during the month: the 38 deer killed on the highways; skinny and weakened deer searching for something to eat back in the wooded areas of my district.—District Game Protector D. S. McPeck, Matamoras.

At Least They're Big and White

BLAIR COUNTY—On February 28, a flock of about 100 swans settled on a lake formed by high water near Canoe Creek. The lake is in what will be Canoe Creek State Park. Two days later some of the swans were still on the lake and many people drove by to see them. The identification ranged from snow geese to big white ducks.—Land Manager J. A. Lukas, Hollidaysburg.

Wishful Thinking

BUTLER COUNTY—I thought for a moment we might have a real record. The deer kill tag returned by a young hunter from Harrisville indicated his buck had 13 points on one antler, 17 on the other, for a total of 30. However, when the information was relayed to me from Harrisburg, I investigated and learned that the boy had taken a buck but it was only a small one. Apparently he thought he'd just indicate the sort of deer he'd like to bag—or maybe he was only kidding us. At least he can add straight, for his imaginary total was correct.—District Game Protector Ned Weston, Boyers.



Goes Back a Long Ways!

LEBANON COUNTY—Mentioning places, dates and names causes some persons to recollect history. Well, a gentleman from Lebanon just phoned and asked if he could have a trap to remove some rabbits that caused considerable damage to his "Victory Garden" last year.—District Game Protector P. A. Hilbert, Cleona.

An Unfortunate Truth

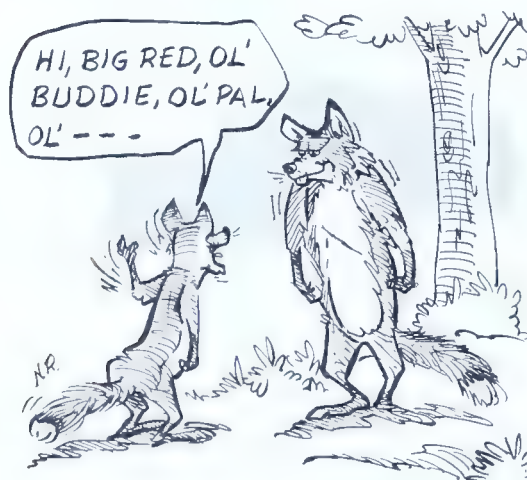
DAUPHIN COUNTY — The mild spell in February removed the snow blanket along our highways—and revealed what must be an all-time record number of cans, bottles and other litter. Our modern harbinger of spring.—Land Manager B. D. Jones, Elizabethtown.

Time to Start Thinking

CUMBERLAND COUNTY — During February there was hardly a large open field in this county that didn't have snowmobile tracks through it. I had several complaints from farmers about misuse of their property. It seems apparent that these machines and their operators are going to cause considerable land to be closed to the public due to reckless operation of these vehicles.—District Game Protector E. F. Utech, Carlisle.

Stubborn

MONROE COUNTY—While checking a timber sale on State Game Lands 40, in Carbon County, with the weather about two above zero and blowing hard, I saw 17 deer feeding in the tops of the trees that were left on the ground after the timber was removed. No matter how hard some people try to tell us that the deer don't eat browse and need corn or hay, it seems that they just haven't been able to convince the deer.—Land Manager G. Wendt, Pocono Summit.



Big Red

LANCASTER COUNTY—Deputy Paul Brandt told me that Ambrose Tierney, of Elizabethtown, and Reuben Redcay came to his headquarters with a red fox which they felt was exceptionally large. They asked if he would check it. According to a Game Commission publication, the average size for a red fox is a length of 36 inches and weight of 10 pounds. A large male red weighs 12 pounds. He checked their trophy. It measured 47 inches from nose to tail tip and 18 inches girth measurement. "Big Red" tipped the scales at 16 pounds. Mr. Tierney, an avid hunter, bagged his trophy in Rapho Township, using a 12-gauge shotgun and No. 6 shot. He stated this was the largest fox he had ever seen.—District Game Protector W. E. Woodring, Lancaster.

Point of View

LUZERNE COUNTY—Deputy Posluszny checked two nonresident hunters in the Bear Creek area in the first part of buck season. When he approached the hunters he asked, "How's your luck?" One said, "Lousy," the other said, "Very good," and seemed pleased. After conversing with the nimrods, he found that the disgusted hunter had killed a 6-point buck earlier, while the satisfied hunter was still trying to bag his. Maybe success is not always the way to satisfaction.—District Game Protector E. R. Gdosky, Dallas.

Depends Who You're Talking To

BEDFORD COUNTY—Immediately following our last deer season, all comments indicated that the deer herd was wiped out. During the past month the deer have been coming into the fields, especially standing corn. Now everyone is talking about the number of deer being seen. I also have received more crop damage reports this month than I had last year during July. Yet the comment, "There are no deer left," is still heard from some.—District Game Protector G. B. Thomas, Woodbury.

Wildlife—the Environmental Barometer

MONTOUR COUNTY—Avid crow hunters report a marked decline in the number of crows wintering in this district. Reason unknown. Perhaps another victim of our scientific advancements that are now having large question marks attached to them—like DDT. The decline in our crow population has been steady over the past several years. Maybe another species of wildlife is flashing a signal to man?—District Game Protector R. W. Donahoe, Danville.



CONSERVATION NEWS



By Ted Godshall



Brad Boalich



Jeff Selfridge



Jeff Conklin

Wildlife Conservation Awards, 1970

THE TOP THREE awards in the FFA Wildlife Habitat Development Contest for 1970 went to Clearfield County students. First-place winner was Brad Boalich, second-place standing went to Jeff Selfridge, and Jeff Conklin took third place. This is an impressive achievement. W. J. Mackereth of the Clearfield High School was the Vo-Ag instructor for each.

Winners in the Pennsylvania Game Commission's six Field Divisions were: Northwest — Pat Fitzpatrick, Butler County, Charles English, Erie, Paul Daniel, Butler; Southwest — Gary R. Miller, Westmoreland, Tim Ault, Indiana, Paul Frazier, Washington; Northcentral—Ted Adams, Bob Wallace, Bob Knepp, all of Clearfield County; Southcentral — Randy Diehl, Bedford, Ray Long, Juniata, Stephen Brunner, Blair; Northeast — Dale Butcher, Neil Peters, Rodney Parks,

all of Bradford County; Southwest—John Rhoads, K. Weidenhammer, Ken Eckroth, all of Berks County.

The Pennsylvania Department of Public Instruction and the Game Commission are cosponsors of this competition, which may be entered by any vocational agricultural student in Pennsylvania. The students set up work plans in land management, predator control, conservation education, marsh and stream development, firearms safety, etc. These plans must be approved by the student's Vocational Agricultural area advisor, his Vo-Ag teacher and the local Game Protector. Projects are inspected by Game Commission representatives and Department of Public Instruction personnel. Judging is done by comparing the area with photos taken before work started. Prize money of \$1000, provided by the Game Commission, is divided among the winners.

Why Antlerless Deer Must Be Taken



PENNSYLVANIA has a white-tailed deer herd of several hundred thousand animals. How many should there be?

Each hunter would probably like to have at least one buck every year. At the current removal rate, this would mean having a herd numbering upwards of 10 million deer.

There is only so much land in the state, and more and more demands are being made daily on that land for housing, schools, highways, shopping centers, industrial sites, etc. Since deer don't grow up in parking lots, these land uses obviously help limit the size of the herd.

Deer live in forests. But not all wooded areas can be utilized by game. Commercial forests, Christmas tree plantations, orchards, etc., are operated for profit by the owners of the land, not primarily for the benefit of wildlife which might be harvested by sportsmen.

A deer is a browsing animal, subsisting primarily on the tips, twigs and buds of bushes and trees. Normally,

whitetails eat only the current year's growth—not vegetation that was produced two or three or five years ago.

Once the average tree is about 10 years old, its lowest branches are too high above the ground for a deer to reach; therefore, it no longer produces food for a whitetail. If that tree is destined to become merchantable timber, it might be as long as another 90 years before it is cut.

Also, during those 90 years, foliage in the upper story of the tree shades the forest floor beneath, so that other vegetation is unable to grow there. As far as deer food is concerned, the tree is a wildlife desert for 90 years out of 100, unless it happens to be a mast-producing species.

A substantial part of Pennsylvania's forests are in the pole and timber stages, which means little food for deer.

The deer herd has to depend on young vegetation for sustenance. When the supply of browse is exhausted, the whitetails are forced to graze in farm fields, if any are nearby.

But this isn't a particularly satisfactory solution either—a farm is also operated for profit, and the landowner isn't making money on crops which are going into deer stomachs.

Over a million Pennsylvanians hunt—but more than 10 million do not, and many of these couldn't care less about the size of the deer herd. But they do become concerned when they smash up new automobiles after hitting deer on the highways.

Ask the non-hunting owner of a \$25,000 tractor-trailer carrying a \$50,000 cargo how many whitetails he thinks there should be after he has demolished his rig following a collision with a herd of deer crossing a highway.

So, while many sportsmen demand more and more deer, other pressures are brought to bear to severely limit the size of the herd. It is the job of the Game Commission to bring about and maintain a delicate balance between conflicting interests; to provide sufficient breeding stock so the herd is not endangered; to provide a surplus of sufficient numbers to afford excellent sport hunting; and yet keep the whitetails out of conflict with other land uses.

By far, the most important pressure and the controlling factor is the amount of food available for whitetails during the critical winter months.

If there are more deer than available winter food supplies will support, the animals will starve, and there is nothing man can do to prevent the tragic loss. Mother Nature is far more ruthless and unselective about controlling the size of the whitetail herd than man is, and if man doesn't limit the deer population, she will.

How are deer limited to avoid excessive winter loss?

Vehicles take a toll. So do dogs. Some are eliminated to prevent undue crop losses. Poachers take some. Others are lost through disease and predation. But all of these factors of removal add up to only about eight percent of the herd.

Hunters currently report removing about 50,000 bucks from the herd every year. This represents about 12 percent of the total whitetail population. If removal were limited to buck hunting plus the other mortality factors previously mentioned, the total reduction would amount to some 20 percent of the herd per year.

But the deer herd increases in size by 30-40 percent per year through reproduction. So it is necessary to remove at least an additional 10 percent of the whitetails annually just to keep the total population at the preceding year's level. This is done through antlerless deer hunting.

Range Capacity

If, in any given year, the antlerless season were to be eliminated, the herd would expand in size by some 10 percent for that one year. Since the herd is currently near the maximum carrying capacity of the range, in critical areas a portion of the herd will starve during a normal winter. In a hard winter, the loss will be even greater.

If the winter is mild, most of these unharvested antlerless deer will survive and produce twin fawns the next year. Now the herd has grown by a total of nearly 30 percent—in addition to its regular 30-40 percent growth—just through closure of one antlerless season. The herd size can double in just a few years through curtailment of antlerless seasons.

Along comes a normal or hard winter, and whitetails starve by the thousands. The Game Commission considers this a tragic and uncalled-for waste of a very valuable resource.

Overpopulation would also mean further deterioration of the range and a lower carrying capacity (fewer deer) in future years, undersize whitetails, smaller antlers and a larger percentage of spike and button bucks, poor physical condition and increased incidence of disease, lower rates of reproduction, etc., etc., in a never-ending cycle. Obviously, antlerless deer must be taken by hunters.

New Game Protectors Receive Assignments

MEMBERS OF the fourteenth class of game conservation officers to be graduated from the Game Commission's Training School have received their field assignments.

Nineteen of the new officers will assume duties of Game Protectors, while the three remaining members of

the class will become land management officers.

Graduation exercises for the class were held on March 20 in Brockway.

Members of the fourteenth class, along with their hometowns and counties to which they have been assigned, follow:

Name	Hometown	County	Assignment
Ronald J. Askey	Frenchville	Clearfield	Greene
James R. Beard	Annaville	Lebanon	Cumberland
James G. Bowers	Punxsutawney	Jefferson	Clarion
Robert L. Clawson	Dover	York	Fayette
James E. Deniker	Grove City	Mercer	Indiana
Telford L. Fox	Brookville	Jefferson	Lancaster
R. Edward Gosnell	Greenville	Mercer	Lancaster
Howard L. Harshaw	Espyville	Crawford	Blair
Lawrence P. Heade	Sarver	Butler	Potter
John Heider	Old Forge	Lackawanna	Jefferson
Dennis E. Jones	New Freedom	York	Fayette-Somerset (land manager)
Wayne A. Lugaila	Midway	Washington	Erie
Andrew C. Martin	Pittsburgh	Allegheny	Erie
Wayne A. McGinness	Avis	Clinton	Beaver-Washington- Allegheny-Greene (land manager)
George F. Mock	Tamaqua	Schuylkill	Centre
David E. Overcash	Waynesboro	Franklin	Monroe
Gary W. Packard	Canton	Bradford	Dauphin
James F. Ramsey	Ligonier	Westmoreland	Clearfield-Cameron (land manager)
Harry E. Richards	Waterford	Erie	Westmoreland
Bernard J. Schmader	Lucinda	Clarion	Montgomery
John J. Snyder	Selinsgrove	Snyder	Berks
Kenneth M. Zinn	Newburg	Cumberland	Berks

Editorial . . .

(Continued from Page 1)

tioned by its own standards. However, the fact remains that they did present an inaccurate picture and they did suggest that hunters acted illegally as well as immorally (it's against Alaska's game laws to shoot a sow bear which has cubs), when such was not the case. Perhaps their purpose was simply to add dramatic interest—create a villain which the audience could easily hate. This might be routine in the field of entertainment, but it is a highly questionable procedure in a film which purports to be factual.

This brings up the question of who is responsible for accuracy in a tele-

vision documentary. Is it the film maker, the sponsor, or the network? Or is it a fact that no one is responsible, that anything which a producer can put together and sell may be shown, *even as a documentary*, when in fact it is nothing but irresponsible "entertainment" or propaganda?

If you think, as I do, that someone should enforce a truthful approach here, I suggest that you let your views be known to Julian Goodman, President, NBC Television Network, 30 Rockefeller Plaza, New York City, N. Y. 10020. You might also want to express your feelings on "Say Good-bye" to R. D. Stuart, Jr., President, Quaker Oats Co., 345 Merchandise Mart, Chicago, Ill. 60654.—*Bob Bell*

Archers Take 2998 Deer in Pennsylvania

Archers had their third best year on record during the 1970-71 seasons as they reported harvesting 2998 deer in Pennsylvania during the regular and extended seasons for bowmen.

The 1970-71 harvest ranks third only behind the figures for the 1967-68 and 1969-70 seasons. The top archery figure of 3251 whitetails reported taken was established in 1967-68, while in the 1969-70 seasons hunters reported taking 3169 deer with bows and arrows.

It must be remembered, too, that there was no extended archery deer season this year in the northcentral part of the state, which is prime deer country. Had the extended season not been closed in the northcentral area, it is quite possible that the most recent archery harvest would have equalled or surpassed the 1969-70 mark.

The 1970-71 figure does not include sportsmen who used bows and arrows to tag their whitetails during the gunning seasons.

Reports filed with the Pennsylvania Game Commission by bowbenders showed that 1091 antlered deer were tagged during the past seasons, only 20 less than the previous year. These included 668 with three or more points. Archers also took 423 spike bucks, one less than the number recorded both last year and two years ago.

The antlerless deer harvest of 1970 included 1501 females and 406 males. Overall, archers took 1497 males and 1501 females.

Forest County, second in the state in archery success a year ago, was tops in reported harvest during the past seasons. Bowmen tagged 216 whitetails there.

Potter County, first for bowbenders a year ago, slipped to second during the past seasons with 173. Warren County was third with 143, Bradford County was fourth with 107, and Schuylkill County was fifth with a total of 101.

Game Commission Receives \$1,262,918 in U. S. Funds

The Pennsylvania Game Commission will receive \$1,262,918 as its share of Pittman-Robertson Wildlife Restoration and Research Funds for the 1970-71 fiscal year, according to the U. S. Department of the Interior. The figure is just about \$17,000 less than the record federal funds made available to the state the preceding year. Pittman-Robertson funds are used for the Game Commission's wildlife habitat development and research programs.

Federal aid programs for wildlife restoration are administered by the Interior Department. Funds come from excise taxes levied on sporting arms and ammunition. Each state's allocation is based on the number of paid hunting license holders and land area. Under the program, states spend their own funds on approved projects and are then reimbursed up to 75 percent of the cost. An indication of the tremendous growth in the interest in sport hunting is to be found in the Game Commission's apportionment of Pittman-Robertson funds just five years ago. At that time the state received \$659,727, just about half the present allotment.

Slow . . . But Sure?

The number of wild whooping cranes at the Aransas National Wildlife Refuge in Texas has reached a record of 56. In 1941 there were only 15.



KIM BAILEY, 14, right, of RD 1, Rockton, took this 60-lb. beaver in Clearfield County during the past season. DGP G. J. Zeidler weighed the furbearer when it was brought in to be sealed. Few beavers attain this weight.

Deer Deaths on Highways Up in 1970

More white-tailed deer were killed on highways in the state in 1970 than in 1969, a final compilation by the Pennsylvania Game Commission shows.

Highway deer deaths in the Commonwealth last year totaled 21,599, compared to 21,246 one year earlier. The 1968 figure was 21,607, and the record of 22,610 was established in 1967.

Of special significance are the 1245 whitetails killed on the state's highways in January, 1971, the second highest figure on record for the first month of the year. The all-time mark for a January occurred in 1967, when 1390 were recorded. In January, 1970, the figure was 653.

It is to be emphasized that all figures represent only deer which are picked up by Game Commission field employees.

Game, Gunners and Biology

"Game, Gunners and Biology" is the newest handbook from John Madson and Ed Koziacky of Olin Industry's conservation department. The eight chapters of this paperbound booklet summarize the scientific approach to wildlife conservation and the hunter's role in bringing American wildlife back from the near-extinction levels of the turn of the century. A great deal of worthwhile information from highly informed writers. Price is 50 cents, from the Conservation Department, Winchester-Western, East Alton, Ill. 62024.

Deer and Bear Measuring Dates and Sites

DATES and locations for the 1971 scoring sessions of white-tailed deer antlers and bear skulls from trophies taken in Pennsylvania are listed below. For complete rules governing the program, see the January **GAME NEWS**, page 39.

May 2: Ligonier Division Office, 10 a.m. to 6 p.m.

May 15: Franklin Division Office, 10 a.m. to 6 p.m.

May 16: Franklin Division Office, 10 a.m. to 6 p.m.

Everyone who has a set of whitetail antlers or a bear skull taken according to the rules listed above is urged to bring his trophy in for scoring. Each owner receives a card showing his trophy's score. Full data on all measurements will be maintained at Game Commission headquarters, in a permanent file.

Should Sunday Hunting Be Permitted in State?

The Game Commission receives numerous inquiries about the possibility of hunting on Sunday in the Commonwealth.

Presently, the Game Law forbids the hunting of game on Sunday, and it is the current opinion of the Game Commission that there is no need for a change in the law. The key to the whole question is the availability of land on which to hunt. Much of the hunting in the state is done on privately-owned property in rural sections. For years the Game Commission has endeavored to make as much land available for public hunting as is possible, and currently leases the hunting rights on more than four million acres of private property through its Cooperative Farm-Game and Safety Zone programs.

Many of these rural landowners are opposed to Sunday hunting, and would close their properties to sportsmen should the practice be permitted. The amount of land lost to sportsmen would be incalculable, and any advantage gained through permitting Sunday hunting would be far outweighed by the loss of areas on which to hunt.

Further, rural churches hold ser-



PGC Photo by CIA Bob Parlamen

DURING THE PAST deer season, this buck tried to swim Tamarack Lake in Crawford County. Ice along the shore prevented it from getting out. Almost exhausted, it was rescued by PGC personnel. Deputy Lawrence Price, above, helped walk the animal to keep its blood circulating well. He and others retreated rapidly when deer regained strength.

vices on Sunday, and it is certain that most worshipers would take a dim view of inconsiderate hunters who would disrupt services with the crack of a firearm.

Tentative Opening Dates Are Listed

Tentative opening dates for the 1971 hunting seasons were established by the Pennsylvania Game Commission in June of 1970, but from inquiries received apparently a number of sportsmen are unaware of the schedule.

The archery deer season is tentatively scheduled to open on Saturday, September 25.

The tentative opening date for this year's early small game season is Saturday, October 16, while the general small game season is tentatively scheduled to open on Saturday, October 30.

The antlered deer season opening date was previously established by Commission action as the Monday following Thanksgiving, November 29.

Official season dates and bag limits for 1971 will be established at the June meeting of the Commission.



GEORGE H. WAGNER, McClure, bagged this white-faced fox in the Krebs Gap area of Jacks Mountain while hunting wild turkeys. Normally a gray fox's face is gray with a black eye stripe and white chin bib. This time, the pale color covered the entire face. The animal weighed 10 lbs., somewhat above average.



MR. SAM LIGHT, Punxsutawney, internationally known in bird dog circles, is shown with Sam L's Fire at the time of his second win at the Open All Age Stake at the Venango Grouse Trial, Marionville. This gave Mr. Light the A. C. Peterson and H. J. Updegraff Memorial Trophy for the 25th time, a world record for the greatest number of first place wins in one grouse trial event by an individual. Lloyd Riss, DuBois, handler and co-owner.

GAME NEWS

Enclosed find check or money order for \$_____ for my subscription to the Pennsylvania GAME NEWS.

☐ NEW

☐ RENEWAL

(Check One)

☐ 3 Years \$4

☐ 1 Year \$1.50

Name _____
(print plainly)

Address _____

City _____ State _____
(Zip Code)

NOTE: All remittances should be made payable to the
PENNSYLVANIA GAME COMMISSION
Post Office Box 1567, Harrisburg, Pa. 17120



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

Safety Survey

THE STATES and provinces that have a big game dress regulation are of the opinion that this regulation has reduced their accident rates considerably. In most cases, the trend in dress is towards fluorescent orange (blaze or hunter-orange). One state even went so far as to say that the wearing of fluorescent orange by their big game hunters had reduced their accidents by 67 percent. Of course the big reduction is in the mistaken-for-game category, but also includes victim out of sight of shooter and shooter-swinging-on-game accidents. One state which does not make a special hunting dress compulsory for big game hunters but recommends the use of fluorescent orange, revealed that in 1969 they had 157 accidents where some special dress other than fluorescent orange was worn. Five victims not seen by the shooter were wearing yellow, 62 red and 66 camouflage clothing or no bright color. Victims mistaken for game included nine persons wearing red and 15 wearing no safety clothing.

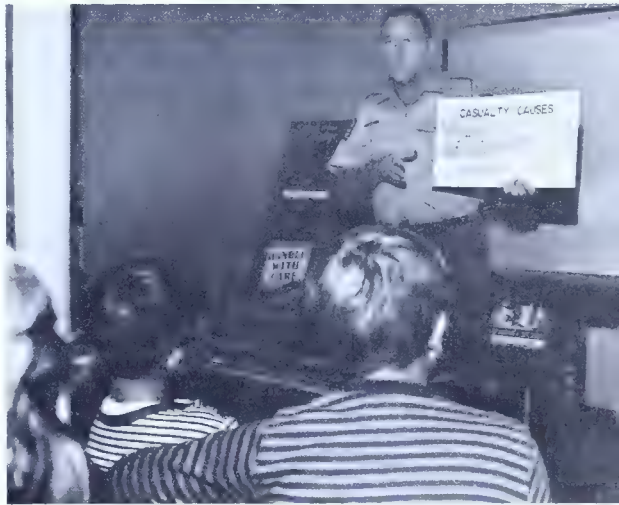
In many cases, some conspicuous-color clothing is recommended for upland game bird hunters and in one state is mandatory. One province and several states make this mandatory in certain areas. Most states and provinces have an overlapping big game and upland game season.

From 1967 to 1969 inclusive in North America, there were 816 more accidents in areas that have no dress regulations than where a dress regulation is enforced.

In Manitoba, all big game hunters

Reported Accidents in North America

	Areas With No Dress Reg.	Areas With Dress Reg.
1967	553	308
1968	925	574
1969	883	663
	2361	1545



PGC HUNTER SAFETY Coordinator John Behel discusses the various causes of firearm accidents with students attending an HS program.

must wear a complete outer suit of white material extending below the knees, and a cap, hat or head covering of a color known as hunter-orange. In addition, a belt with or without one or two shoulder straps of the color known as hunter-orange may be worn. From 1964 to 1965 inclusive, Manitoba had seven mistaken-for-game accidents. In five of these, no hunting dress was worn.

From information gained from 40 states and nine provinces, 31 do not permit a loaded firearm in a vehicle and 18 do. The nine provinces that reported do not permit a loaded firearm in a vehicle. Some places insist that a firearm be cased or broken down.

One state that permits a loaded firearm in a vehicle reports that last year 23 of their 27 hunting accidents were a result of this.

Loaded Firearm in Vehicle in North America
(from provinces and states that reported)

	<i>No. of Accidents</i>
1967	62
1968	192
1969	187
Total for three years	441

Loaded Firearm in Vehicle in Manitoba

	<i>No. of Accidents</i>
1964	2
1965	1
1966	4
1967	2
1968	2
1969	2
Total for six years	13

Training Hints

Suggestions have been received relative to the hunter safety examination which may be helpful to instructors presenting HS training. A Lancaster County group has recommended that a separate answer sheet which they developed be used. The instructor reads the questions and explains any words not understood by the students. If the books are used by students, the answers are recorded on an answer sheet and all books returned to the instructor after each class. This greatly reduces the cost of the exam, and maintains control of the examination questions, in addition to minimizing handling and mailing. By using this method for examination, special consideration is given to individuals with a reading deficiency or those who do not clearly understand certain words. A number of instructors have recommended that some words on the present exam be changed. This will be taken into consideration at the next printing.

We appreciate getting suggestions like this from persons working with the program. They help us to make it more effective for everyone.

Booklet on Gun Control Act of 1968 Available

Sportsmen interested in gun ownership would do well to get a copy of a new publication from the National Shooting Sports Foundation, "A Compilation of the Federal Gun Control Act of 1968." This 85-page booklet is a documented reference to the Act, including amendments, rules and regulations promulgated by the U. S. Department of the Treasury for the administration of the Act, industry circulars, questions and answers about its operation, and much other pertinent material. It is a highly useful reference for combating unduly restrictive legislation, as it shows the breadth of laws already on the books. Order from the National Shooting Sports Foundation, 1075 Post Road, Riverside, Conn. 06878. Price, \$1.

Report of Hunter Safety

In completing the second year of compulsory hunter safety, the final report shows 60,643 students certified for 1970. Increased interest remained high prior to hunting season, with 11,711 certified in September and 15,094 for the month of October. However, interest should be encouraged throughout the year to certify the required 40,000 hunters under 16 years of age seeking their first license.



THE CAMPERS ARE COMING!

By Les Rountree

PENNSYLVANIA is a unique state. The third most heavily populated state in the union, yet it harvests more wildlife than most of the uninhabited western giants. A leader in steel and coal production, yet it has more miles of trout streams than the state of Maine. Industry and vast forests don't seem to be compatible and in many cases they aren't but we have both in abundance. As a Commonwealth, we find ourselves completely surrounded by huge population centers. Cleveland and Chicago to the west, Buffalo to the north, Baltimore and Washington to the south and the New Jersey/New York City complex to the east. Tourists and recreationists of all stripes are descending on us. This summer, the newly completed Interstate 80 will bring even more.

Because of Pennsylvania's geographical position, there isn't a thing we can do to prevent it. We have the available space for hunting, fishing, camping, skiing, hiking—you name it. We also have the historical landmarks that

played such a great part in the forming of this nation. As our country's 200th birthday comes around in five more years, the camping boom of the '60s will seem like a small picnic. The people are coming! Is your community ready? Is the state ready?

One of the areas where rapid expansion is needed is in camping facilities. The Pennsylvania Department of Forests and Waters (a department that no longer exists, having been absorbed by the newly created Department of the Environment) has been building state camping areas at a record rate. The need must have been there because all of the state areas are full on summer weekends. Private campgrounds, too, are usually booked solid on weekends. The Allegheny National Forest is handling just about all of the campers they can comfortably manage. What's the answer?

In a recent issue of Woodall's "Trailer Travel" magazine, some opinions were voiced by a cross-section of campers concerning the government's



A SMALL TRAILER usually can be towed by the family car with no problems, provides a comfortable camping setup—if you can find a place to park it.

role in providing more camping facilities. As expected, there was a wide difference of opinions about what government—state, local and federal—should do for the camper and if, in fact, it should do anything at all.

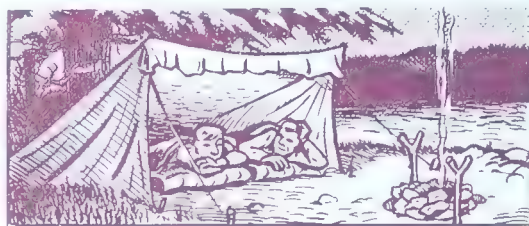
Many of the really outstanding camping facilities in the country are those built and maintained by state government agencies. They are usually well planned and adequately maintained. The most frequent complaint is that there aren't enough of them and they aren't large enough. An honest enough gripe since it's easier to build camping vehicles of all descriptions than it is to build camping sites to put them on. The same predicament exists on our National Parks. They have been adding to their campgrounds as fast as money can be appropriated, but they just can't catch up. Anyone who enjoys camping has read about the crowded conditions that exist at Yellowstone and Yosemite during the peak camping season.

It's an undisputed fact that camping is going to grow as a form of American recreation. And maybe that word camping could be the wrong word to describe the sport. Motorized touring might be a better description. Is it important what we call it? I think it

might be, since camping to a lot of people means "temporary living close to nature." Just where and how you decide to do it means a lot to the planners who are knocking their brains out trying to decide what type of facility to build.

The very deluxe motor homes and travel trailers require more parking space and more equipment than tenters do. And while I may be stepping on some toes, the people who use these more comfortable rigs are not really camping in the purist's definition . . . they are touring. Very few creature comforts are being left behind. I'm not knocking this form of travel—I've enjoyed it myself—but I am sure that the big rig owner can no longer demand the right to park his 20-footer right next to the top scenic attractions in our state and national parks. He can demand water hookups, dump stations and electric service at specific locations *near* the scenic wonder but not *on top of it*.

It's a bit laughable to hear the driver of a really big outfit ask the campground attendant if a "primitive" or "rustic" location is available. What he really means is a "private" location somewhat away from the center of the activity. My definition of a rustic site means you can drive to it, when roads aren't too muddy, in the family car or pickup truck. You will not have electricity and you'll have to walk a considerable distance for water and sanitary facilities. Primitive means the only way to get there is walk and these sites are reserved for backpackers only. At some federal and state sites there are provisions for deluxe, rustic and primitive styles of camping. Those that don't have, should have them. The styles of camping should be sepa-



rated for esthetic reasons at the very least. The tenter who expects some solitude should not have to listen to his neighbor's hi-fi or television set if he doesn't want to. On the other hand, the touring camper should not have to suffer the misery of babying his heavy trailer or motor home through a foot of mud or rut-scarred paths to park his rig on a 15 percent slope.

Yes, I am in favor of more state and federal interest in camping facilities at sites already in the public domain. I am also in favor of governmental agencies acquiring more land for the purpose of providing recreation where the private sector does not have the wherewithal to offer it.

Interesting Arrangements

Interesting arrangements have been worked out in some states that have involved governmental agencies and private enterprise. Certain developments such as lakes, parks, marinas and the like have been created with public funds. The operation of camping areas at these locations has been offered to private industry on a competitive bid basis. The person or agency who wins the concession must operate within certain guidelines, of course, but it becomes primarily a private enterprise operation.

Most of the private campgrounds in our state are of the multi-purpose or in-between variety. They *can* handle the large touring outfits and they do offer some rather primitive sites, but most are not geared to take care of these two extremes. For the smaller travel trailer or the tent trailer camper they are reasonably well laid out. They also serve the tenter who is equipped a bit more lavishly than the out and out backpacker. When most of these campgrounds were constructed, these middle-of-the-road campers were the only people around. The big motor home was not seen in the numbers that exist today and the primitive hiker who carries everything in a 40-pound pack was practically nonexistent. The picture has changed dras-

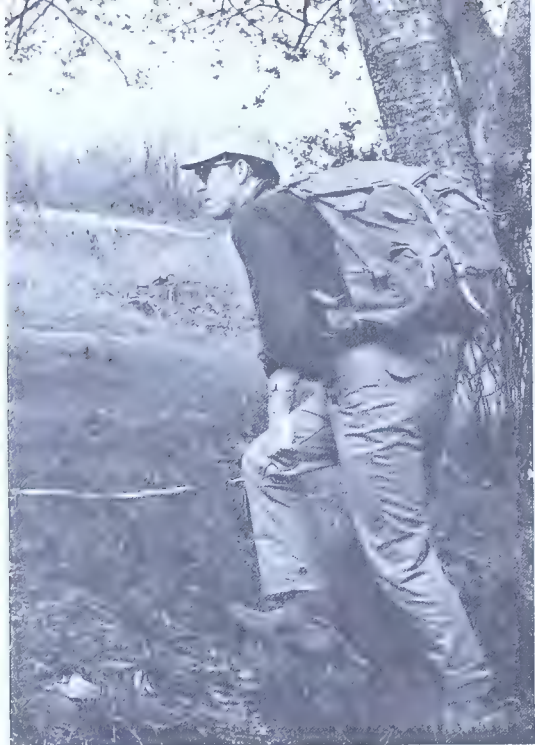
tically in five short years. We have nearly as many kinds of campers as we do units to go camping in. Nothing short of a national catastrophe could stop all types of camping from increasing. The governmental agencies



MOSQUITOS, FLIES, bugs, snakes—not one of these makes a nuisance to a camping outfit such as this one. It has all the comforts of home.

and private enterprise must adjust to accommodate them.

For a long time the giant motel chains that are the standard stopping off places for traveling Americans ignored the growing tidal wave of campers. These people, thought the motels, carry their own accommodations with them, so why should they aim any advertising in their direction? Now, several of these chains, Holiday Inns for one, are going into the subsidiary business of constructing some rather opulent camping, or rather touring, areas. While they will make no overt effort to restrict the areas to any particular kind of camper, it's no secret that these areas will be aimed at the fancier self-contained units that require a good level parking spot, preferably one that's paved. These motel campgrounds will not be located in the hinterlands but rather close to civilization and will offer nearly all the conveniences of a modern trailer court. They will indeed be geared to the



THE BACKPACKER — who considers himself the only true camper—lugs every thing he needs, sees country that the wheeled version cannot reach.

touring style camper as opposed to the casual family camper who merely wants to erect his Nimrod, Coleman or Apache pop-up job and go fishing, hiking or bird watching.

Fill Important Need

Quite honestly, I think that these motel-operated touring way-stations will fill a very important need on the American camping scene. The federal government would do well to watch their progress closely. Such paved parking areas for the large touring units would be a welcome addition at the huge National Parks that are becoming so overcrowded. If we keep going in the rather sketchy way that we seem to be, a few more years will see a solid pack of trailers and motor homes ringing Old Faithful. Any place that a really scenic wonder exists, camping (of any description) should not be allowed for a half mile radius. Admitted, if the natural attraction is located on private land it would be difficult to control . . . but it would still be a good idea.

The fellow who wants to camp with

the bare essentials, the primitive camper, needs some special consideration too. There aren't as many of these people as some of the militant conservation organizations would like to have you believe, but they are increasing. Certain areas in our National Parks have been designated as primitive areas and the only way a camper can utilize them is go in by foot or horseback. These areas are not being used as much as was anticipated. It seems that those who fought so vigorously for such areas overestimated the pioneer spirit that still existed. Don't get me wrong! I'm 101 percent behind the move to preserve as much wild land as possible, but I wish more backpackers would oil up their walking shoes and prove to the skeptics that there are still a few people around who want to enjoy the heady thrill of being really alone.

Come to think of it we've got a number of areas here in Pennsylvania that could be considered primitive in a camping sense. If you don't believe it, just take a look on either side of you as you drive across Interstate 80. There's a powerful big bunch of countryside there and not too many roads of any consequence traverse it. There's plenty of opportunity for the Pennsylvanian to enjoy some of the same backpacking thrills that are usually associated with the western states. Some county agencies are marking hiking trails for the stranger and my guess is that many more will be doing it.

Livelihood For Few

The rather strange overriding fact of camping in the United States today is that, in spite of the whirlwind growth of the industry, the business of operating a private campground is not very profitable. Few campground operators depend solely on the campers for their livelihood. Most are sideline businesses in existence solely because the owner likes to camp himself. The very best camping areas in the nation are invariably tied in with some enter-

prise that supplements the income.

The obvious answer to our dilemma is more involvement by governmental agencies. The government, local, state and federal, is not expected to make a profit on anything (although it wouldn't be a bad idea if they did sometime). If they break even or take a slight loss on any project, that is the best that can be hoped for. The hike-in camper, the motorized tourist or the weekend adventurer needs a better shake from the government. There are 25 million of them around these days and the number is not going to stop there. A couple years ago the U. S. State Department was asking Americans to see America first . . . and you know what? It worked! Americans are out there seeing America, and in the process a lot of them are going to be seeing Pennsylvania too. I hope you'll be one of them.



MUCH OF THE satisfaction of camping comes from getting closer to nature than city life permits, learning to appreciate the things often taken for granted at home—such as simple tasty food that's easily prepared.

Natural Adaptation

Deer shed their coats twice each year, trading light, comfortable summer attire for a heavy, insulated hide to see them through the winter.

Book Review . . .

Rocky Mountain Warden

The title is deceiving. Game wardening doesn't make up an awful lot of this book, though what there is shows that Frank Calkins went the route. What this really is, is the most readable thing to come this way in years, a fantastically accurate account of an outdoor man's day-to-day life in a region—Utah—which to most of us is as strange—and fascinating—as the moon. Calkins is gifted with eyes that see things as they are, be they saddle horses (he called his The Pig!), deer or elk, the Saints of the Mormon Church or duck-hunting buddies, and a Will Rogers facility for making you see them too. His language is earthy in spots, his tone irreverent—consider chapter titles like “No Such Thing as a Good Boy,” “And We Had to Kill the Deer,” “Miss Josie and Other Outlaws,” and “The Plural of Elk Is Elk.” And everything is touched with Western humor: “I'd just as soon stay outa sight while you check people around here—lot of 'em's my relatives,” “No one wants you around unless they're hurt or in trouble,” “Ducks fly on windy days because if they sat on the rough water they'd get seasick.” Sometimes the humor doesn't mask the tears: “Your father cried when he had to have Gunner put to sleep.” If you ever wanted to know what today's West is like where the real people live, here's the straight dope. (*Rocky Mountain Warden*, by Frank Calkins, Alfred A. Knopf, 201 E. 50th Street, New York City 10022, 266 pp., 1971. \$6.95.)



For Top Sport, Get . . .

Equipped for Carp

By Keith C. Schuyler

Photos From the Author

STATISTICALLY, this state's archers are mostly made up of bow hunters. Roughly 150,000 of them. This includes many of the so-called target archers who alternate between the target line and the hunting field.

There may be those who wonder sometimes why this column puts so much accent on target shooting with such an imbalance of hunters to targeteers. A quick look at the total picture will uncover the reasoning. The military branches of our country don't send men into the field without basic training. This training covers a thorough indoctrination in nomenclature, assembly, and care of equipment, before it is actually used. Although implications are somewhat less serious in pursuit of a sport with the bow and arrow, the need for basics is no less necessary.

This is a sort of a roundabout way of providing an introduction to some ideas on archery tackle for carp. It is provided as an explanation of the approach used here frequently to archery in general. Although it is unfortunately in a minority position relative to archery, organized shooting has and will continue to be the core of a continuing need in the total sport.

Shooting at rough fish, especially carp, gar, suckers and eels, is one of the more enjoyable hunting sports with the bow and arrow. The bulk of such hunting is done where carp and suckers provide targets. Fortunately, for those who look on suckers as a source of fishing recreation during the spring and fall, these fish are generally only found by archers in the shallow waters of trout streams where their presence is considered undesirable in

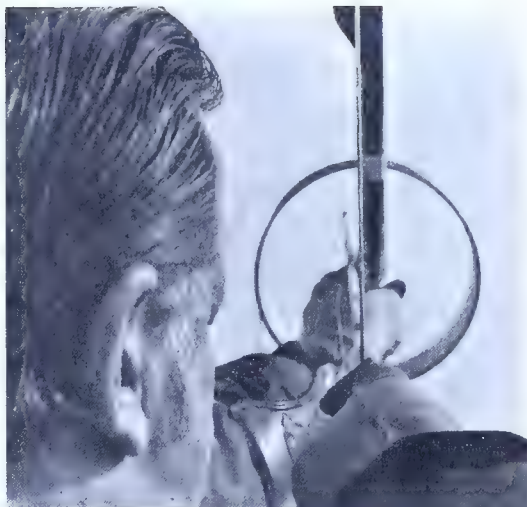
the overall approach to trout stream ecology. Further, these streams are not open to sucker shooting from March 14 to the first day of trout fishing. The bow hunter has both a reason and an excuse to remove them from such waters.

Carp, originally imported from Germany, are found in most waters, and there is little good to be said in their behalf. Consequently, their removal is a plus value in the overall ecological approach. These imports are considered predatory relative to the spawn of other fishes.

Shooting trash fish with the bow and arrow is a specialized sport that requires tackle attuned to the purpose. Those who miss out on such shooting may do so simply because they are not properly equipped. Our purpose here is to suggest some ideas proven to be of assistance to the fish hunter. One necessary item of the fish hunter's accouterment, except for those under age, is a fishing license.

There are actually two approaches to hunting fish with the bow and arrow. Which you choose will govern somewhat the tackle needed for best results. One approach is simply to go equipped to take as many fish as possible. The other, which I prefer, is to get the maximum sport out of the hunt. Basically, the bow is the only item of tackle which requires no refinement. It can be your target bow, your hunting bow, or one that has been sitting around the house gathering dust while you determine whether to trade it in, give it away, or keep it as a spare. This last bow might be the one to consider first if you plan to go seriously into fish shooting as an off-season sport.

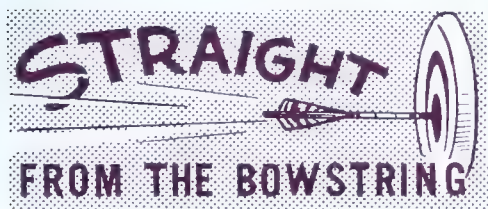
Some of us congratulate ourselves



SCHUYLER BEGINS his draw, using a Sabre shoot-through bow reel and heavy tackle, a rig that works very well on trash fish.

on a few shots at what are considered long distances for fish shooting—perhaps in excess of 10 yards. Most shots are measured in feet. And not too many feet at that. The average fish kill is made at some 10 to 12 feet. This means that many are much closer and the same number are made a few feet farther out. It also means there is little need for any particular refinements on the bow itself.

At three to five yards, length or weight of the arrow is of little importance relative to shooting skills. Rather, it is the short distance of the average shot which causes the bow hunter some trouble. As in shooting small game at close distances, prior practice is needed. If you do any field shooting, you will find that the same hold you use on the smallest targets will be just right for fish hunting. For all but sight, or free-style, shooters, an anchor as close to the eye as possible will be best. This is where the three-fingers-under boys have an advantage. By looking almost straight down the arrow, they can aim almost dead-on to pin their targets. Others must accommodate to something similar if they expect to score with any consistency upon targets which are no farther away than a few lengths of



their bow in many instances. At such distances, trajectory is of little importance.

However, one factor is of utmost importance when shooting from one medium, air, into another, water. Depending upon the depth of the fish, compensation must be made for visual distortion. A fish under water always appears farther than it actually is. This distortion is measured by the amount of water through which the arrow must go to the target. Except for fish which are lying right at the surface, such as a carp following along shore with its fins sticking out, some allowance must be made in aiming. Shoot low. Although there may be imperceptible deflection upward from the angle which the arrow hits the water, it will go relatively straight. So, if you shoot straight on at a carp two feet underwater and 12 feet from you, your arrow is likely to go over the fish since it *appears* farther than it actually is.

To prove this to yourself, have someone hold a stick or an oar at an angle in the water. The portion beneath the surface appears to make an abrupt angle away from that part which extends above water. Since we know that the stick is straight, it is merely visual distortion. For example, if we attempted to shoot at the tip of the oar or the stick, our arrow would strike beyond it.

Tendency to Overshoot

Since the tendency is to overshoot close targets at any time, the problem is enlarged. Unless you keep both of these factors in mind, you will overshoot consistently until practice gives you the proper correction. This practice can be done in any water where you can sink a target to various depths and then practice shooting at it from different distances and angles.

When some proficiency has been attained in such shooting, it only remains to get tackle together for an actual hunt. If all you want to do is kill fish, the conventional solid glass

fish arrow will do the job. Further, if you expect to get into big carp or have the off chance for stingrays and sharks, the extra weight of such a projectile will help to ensure deep penetration. However, if you are trying to milk as much sport out of the game as possible, conventional shafts which are expendable are more practical.

In the two approaches, the bow reel must be considered.

First, we'll take a look at tackle specifically designed for fish hunting. This entails the use of a solid glass arrow with affixed point. The fletching is usually rubber to make it more practical for use in the water. This arrow is considerably heavier than conventional shafts and practice beforehand is possibly even more essential. Glass arrows are so heavy that even at short distances there will be a noticeable drop; it becomes more perceptible on longer shots. This weight becomes a consideration at anything over 10 or 12 feet. However, the increased weight of the arrow will better carry the heavier lines frequently used when you are getting into underwater big game. Most bow reels carry 50- to 80-pound test lines which create quite a drag on, for instance, a light wooden shaft.

Some regular fish arrows have a hole drilled in the fletched end to affix the line. This puts a heavy strain on the arrow itself. Also, it can cause enlargement of the wound in a fighting fish so that a pull-out is possible. The arrow will carry the line better if it is tied on the rear of the shaft, but my preference is still to attach the line to the head. A compromise is to run the line through the hole in the rear end of the arrow, up along the shaft and then tie it to the head. However, unless penetration is deep or complete in a large fish, there is still the problem of wear and tear where the shaft enters.

A conventional bow "reel" is necessary in such an arrangement. These reels, such as the Sabre Shoot-Through, are simply tapered drums on which

the line is wound by hand. A clip arrangement of some sort is provided to fasten the line lightly when shooting. Otherwise, the line will fall off the reel in coils, inviting tangles, when the bow is titled forward at the angle necessary to shoot fish. We have used such a setup in conjunction with a fishing rod, fastening the bow line to the fishing line so that the quarry can

adapter is made for the purpose, the reel must be mounted so that the aperture from which the line flows is 90 degrees to the direction of the shot. Either a reel such as the Free-line, or a spin-cast design, is necessary. Open-face reels cannot be used unless an adapter is fastened to the bow.

Two important precautions are necessary when using the fishing reel to



PIECE OF BROOMSTICK fastened to bow, left, makes good base for reel; center, Saunders head with reversible barb for expendable shaft, conventional fletching; right, other "fishing" rigs.

be played by rod and reel after the hit is made with the bow and arrow.

The foregoing is presented here as tackle specifically useful for large creatures in the 20-pound and up bracket. This does not mean that it cannot be used for run-of-the-mill targets, but it is a bit cumbersome for the pinpoint shooting necessary on small fish. Contrariwise, the next setup described is entirely adequate for underwater big game if proper consideration is given to water depths and distances to be shot.

Because the conventional tackle previously described is considerably heavier than needed for average shooting, some years ago we experimented with a conventional fishing reel. The only particular requirement is that the reel be one which has the line coming out of a small aperture so that it will move freely from the spool. This is necessary since, unless an

carry the line. First, the mechanism must be pre-set so that the line flows freely. If the reel is in gear, the arrow is going to break the line and find its own direction. And the line must be in such a position that it will not tangle or catch on some protuberance when the shot is made. This is important, since if the line should catch around the bow hand, a nasty cut could result.

Obviously, the idea behind this one is to play the fish from the bow with the fishing reel. It provides sort of a combination hunting-fishing sport. Although up to 20-pound-test monofilament can be used, the lighter the line the less interference there is with the shot.

Such a setup makes it possible to use light shafts. We frequently use old wooden junkers that remain from matched sets. Since the line is attached to the head, we set the shafts lightly

into the head by hand. Whether they stay with the fish or not is immaterial, since such arrows are expendable. Anyway, except in swift water, the shafts can be recovered. The desired result, however, is to get the barbed head deeply into a fish so that it will hold well while the fish is being played in much the conventional manner as with a fishing rod and reel.

Some personal experiments to make it even more closely simulate fishing failed when a large eye was attached to the upper tip of the bow. In a dry run practice session, the idea worked fine. However, as soon as the line became wet, it would break on each shot. Others have used the better shooting qualities of a fiberglass shaft, which they have loaded down with an aluminum shaft of smaller diameter. This provides additional penetrating power while giving more strength to the arrow when the line is fastened to the back end.

We have found that electrical tape works best in fastening a reel to the back of the bow. Enough should be used so that the reel is snug and can handle a good-sized fish without wobbling or coming loose. Masking tape will also work although it is more susceptible to moisture. If much shooting is planned, feathers can be water-proofed by spraying on one of the new silicone or anti-moisture inhibitors.

If a permanent setup is desired, one

devised by my son, Keith, Jr., is excellent. He used the end of a broomstick, flattened one side, and bolted to the bow. This makes a much more rigid arrangement which will take almost any type of punishment anticipated. Further, the fishing reel can be mounted so that the line opening faces to the front, a highly desirable setup.

Choice of heads is up to the individual. The head should be so constructed that the shaft can be removed from the fish without cutting the line. This saves tempers and fletching. Most heads are made of soft steel so that they can take the punishment of hard stream bottoms. A file should be part of your bow hunting equipment so that heads which connect with stones can be resharpened. Naturally, the heavier heads are necessary for larger targets to provide the penetration needed to sink the barb deeply enough to do some good.

You may come up with some improvisations and good ideas yourself. The important thing is that you not pass up such sport where it is available. Best bow fishing is at a time when you can get the greatest enjoyment of the out of doors. The spawning run of late spring is a time to rid the waters of less desirable inhabitants.

This is one game in which shooting down can provide top sport. It doesn't take much of a changeover in tackle to get equipped for carp.

Applications Due for Taxidermy Examination

Applications for the 35th annual taxidermy examination should be made by May 28, the Pennsylvania Game Commission Law Enforcement Division has announced. The examination will be held Tuesday, June 22, at the South-central Field Division Office of the Game Commission at Huntingdon. Any person desiring to take the examination should make application no later than May 28, either to the Harrisburg Office of the Game Commission or through his local District Game Protector. All eligible applicants must be at least 21 years of age and must present six specimens mounted by themselves, including one deer or bear head, one small mammal, one upland game bird, one duck or other waterfowl, one unprotected bird or animal, and one fish or reptile.



GUNSMITH AL WARDROP prepares to zero in 338 Magnum fitted with 1½-4½x Redfield scope in Redfield Jr. mounts.

Now's the Time to Install a Scope

By Don Lewis

Photos by Helen Lewis

THE BUCK WALKED out of the thorn thicket and stood nervously for a few seconds, testing the wind to see if it carried any smell of danger. Satisfied that the heavy scent of man that morning meant nothing, it walked to a flowing spring to drink. A hundred and fifty yards away two aging hunters tensed at the sight of the magnificent white rack. It was the first morning of buck season.

"By gollies, Harry, that's the buck we've been watching all summer! I never thought we'd get him the first morning."

"Don't count the chickens before we get 'em hatched, Clate. That's a powerful long shot down there. I think you better do the honors since you've got a scope on your 270. Wouldn't be no use for me to even try with open sights."

"I'm not so sure I should shoot.

We've been sharing our shots for over 30 years, and it's your turn to shoot first. As far as the scope goes, I don't think it'll help much. I never touched the rifle since I got the scope mounted last week."

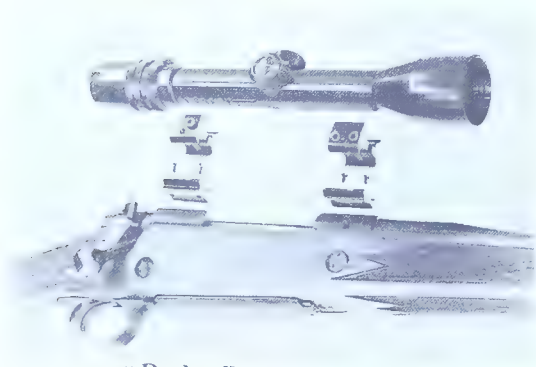
"What difference does that make," Harry asked. "All you have to do is look through it, I'm told. I never used one either, but it's just another sight."

"You better shoot, Harry," Clate muttered after a minute of trying to find the deer in the scope. "I can't see a darn thing through this blasted scope. Go ahead and shoot. That buck is getting jumpy."

"Aw, there's got to be something wrong," Harry grumbled. "Mind if I take a look. I've seen fellows back at the range put shot after shot in a three-inch bullseye at a hundred yards with a scoped rifle. You're not doing it right."

"Go ahead and try," Clate sputtered with embarrassment. "I know one thing, this scope will be off my rifle and my open sights back on just as soon as I can get to a gunsmith."

Harry fussed and fumed, squinted and stared, too, but he couldn't see



NEW BUSHNELL Scopechief IV-DM hunting scope has integral rib on bottom. Interrupted lugs permit positive positioning for eye relief.

through the scope either. In total exasperation, he handed the rifle back to Clate.

"We're out of luck. That buck just ambled back into the thicket. What's supposed to be an asset to hunting just cost us the biggest rack we've seen in years," Clate said bitterly. "Come to think of it, Harry, you're one of the fellows who insisted that I scope my rifle so we'd have each type of sight."

"Yeah, I guess I was wrong. Must of believed all those stories I read on how fantastic a scope is. Well, they say experience is the best teacher, and you'll have to admit, we got plenty of it this morning," Harry said grimly.

"I hate to go back and face Martha," Clate said pensively. "She'll just say 'There's no fool like an old fool.' She was against me going modern. Let's head for the car, I'm done for the day."

"Not so fast," Harry snapped. "I'm not going to be done in that easy. Over half the hunters in the woods today are using scopes. You and I have been giving professional advice in our field for more than 30 years, and

there's no reason why we can't figure out what's wrong."

"You're just wasting time," Clate tossed back as he handed over the rifle.

"Maybe so," Harry answered, "but I'm not quitting on the first day just because we can't use the scope. Didn't you get any instructions when you had it mounted? The gunsmith must have told you something."

"Nope, I bought the scope and had it installed just last week. Martha picked the rifle up, and all she told me was the scope was sighted in for a hundred yards."

While Clate was talking, Harry unloaded the 270 and began studying the scope and its mounts. Time after time, he raised the rifle to his shoulder and attempted to see through the scope. Clate watched but said nothing although it was apparent that he was getting irritated. Finally, Clate reached for the rifle.

"I've got it!" Harry exclaimed. "I know why we couldn't see through the scope. It's mounted too far forward. The rear end of the scope is just over the safety, but it should extend back several inches and there's enough room left on the scope to do it," Harry continued pointing to the scope rings.

"What would that have to do with our not being able to see through it?" Clate asked.

"Here, try it. When you place your cheek against the stock in the normal manner, your eye is six inches from the back of the scope. Slide your face forward about three inches, and you'll get a full view through it."

"Yeah, by jumpin' you're right," Clate answered as he slid his face back and forth on the stock. "That's the answer. Do you think we should



move it back? I've got a knife with a screwdriver on it."

"Better not tamper with it now," Harry said thoughtfully. "We know what's wrong, and we can use it the way it is until later."

This little episode had a happy ending. Later that day, Clate, with Harry's tutoring, dropped a 4-point buck at 125 yards. Before the season was over, each man had his rifle scoped properly and knew exactly how to use it.

Now Is The Time

It may seem pretty early to some hunters for me to insist that right now is the time to mount a scope. Big game is still many months away, so why all the hurry, they ask. Learning to use a scope is not so difficult that many months are needed to get the hang of one. But on the other side of the ledger, I know there were dozens of incidents last deer season similar to the one described above. Unfortunately, most of them ended in disaster.

I'm not going to try to prove why a scope is superior to open sights or that the hunter stands a better chance for success using a scope. I've done all that a number of times. I am interested in getting across some advice to hunters who never used a scope but have decided to make a change. Unless several important steps are taken along with getting a little summer-time practice, the scope will only confuse the hunter and perhaps keep him from getting a deer.

The new scope buyer's first problems are what kind of scope, how much power, and what price range should be considered. I can't pass this off by saying it's just a matter of personal choice, especially if a scope has not been used before. However, my advice is simple and to the point. The 4X scope is adequate for 99 percent of all Pennsylvania big game shooting. Until the user learns how to use a scope, more power is not to his advantage. Although the variable power scope seems to offer more and is im-

pressive looking, unless one of high quality is used, a number of problems can be the end result. For my money, I would rather have a straight top quality 4X scope than to have nearly the same amount in a variable power scope of lesser quality.

I would also have the scope mounted as solidly as possible. If I thought it profitable (which I don't) to mount a scope so iron sights could also be used, I would stay away from flip mounts or quick detachable mounts. There are see-through designs that hold the scope as securely as conventional mounts. A problem with these is that the scope is set very high above the action, and this makes it difficult to



JAEGER SIDE MOUNT permits plenty of fore and aft movement of scope to accommodate to shooter's sighting habits. It's also quickly detachable.

see through the scope while properly cheeking the stock.

I've fired literally hundreds of scoped rifles, and a close look at my right eyebrow will reveal several tell-tale scars where I've been cut with the scope tube. I can't think of an occasion where it wasn't my fault. This is the reason many scopes are mounted too far forward, as was the case with Harry and Clate. But mounting the scope in this manner reduces its effectiveness. Scope makers are guilty of implying that their scopes have four to five inches of eye relief. I have found this not to be true. There are differences in eye relief among the

various scopes, but most have about three inches. This might not sound like enough distance between the eye and the rear of the scope, but the shooter need not fear if the rifle is held firmly against the shoulder. Firing a few rounds will soon prove my point.

Install Early

It's my contention that getting a scope mounted the way Clate did is completely wrong. Mounting a scope a week prior to opening day might be a step in the right direction, but nine times out of 10, it will disappoint the new owner. Had Clate installed his scope early and used it in practice, he would have gotten a shot at the trophy buck.

For one thing, I get tired of hearing how a scope caused Uncle Joe or Cousin Fred to lose his deer. There is not a year that this story isn't told to me half a dozen times by people who actually believe it. This is nonsense in the purest form. It's always the trophy bucks like the one Clate and Harry saw that the scope saves for some guy with open sights. In my book, this too is utter nonsense. The truth is that the

scope, unless it's not adjusted or mounted correctly, never caused anyone to lose a shot under normal hunting conditions. I qualify this simply because I remember once when there was so much fog and rain I was unable to use the scope. But open sights wouldn't have been any better unless the deer was at less than 50 yards.

If Uncle Joe and Cousin Fred would admit to the facts, their stories would lose much of their luster. It's human nature to look for alibis.

I recall once when two fellows told me that their granddad had lost a standing buck because he said it was impossible to see through a 4X scope at distances under 30 yards. They related in great detail how he had years of experience and had always been against scopes. This was real proof that he knew what he was talking about. I guess I really shook them up when I told them I thought their granddad was a cantankerous man who was short-sighted so far as scopes were concerned.

To prove my point, I picked up a rifle which had a 4X scope on it and had each man read a sign on a post

Book Review . . .

Winchester '73 and '76

Our Civil War was fought largely with muzzle-loading rifles, yet the appearance of several breechloaders in that conflict signaled the approaching end of the single shots. The opening of the West soon after also showed dramatic need for rapid-firing weapons, and the then-young Winchester Repeating Arms Co. met the demand with the lever action Models 73 and 76, the first repeating centerfire rifles. The M73, chambered for the 44-40, 38-40, 32-20 and 22 short, was manufactured for over a half century, with more than 720,000 produced. Its accuracy, large magazine and reliability made it a favorite of men who chose to live in a hostile land. Buffalo Bill Cody called his M73 "the boss" for hunting and Indian fighting. The need for more powerful cartridges which could handle larger and more dangerous game resulted in the M76, a favorite of Teddy Roosevelt. It was chambered for the 40-60, 45-60, 45-75 and 50-95—adequate for grizzlies, elk and anything else found in America. This well-illustrated book gives good basic information on these two rifles which were so important to the settling of our West. (*Winchester '73 and '76*, by David F. Butler, Winchester Press, 460 Park Avenue, New York, N. Y. 10022, 1970. 95 pp., \$7.95.)



EYE RELIEF OF WEAVER K6 IS LONG, but scope would be more usable if it were moved back until turret just cleared rear mounting ring.

scarcely 30 feet away. With some embarrassment, each agreed that it should have been no problem to clearly see a standing deer at short range with a similar outfit.

I told them I meant nothing detrimental by the remark, but that a good bit of the bad publicity the scope gets is actually the hunter's fault. Their granddad was against the scope psychologically, and he probably didn't try to learn how to use it. There can be no argument that any device which apparently brings the target closer and makes it brighter and easier to see is anything but an asset to the hunter.

Maybe I've worn out the phrase that the scope should be as personal as your toothbrush. But whether it's worn out or not, it's still a fact. A scope must be fitted to a rifle for just one person. Incidental things, such as squaring the reticle, getting the exact eye relief, and focusing the scope for the owner's eye, have a definite bearing on the effectiveness of any scope.

Squaring the reticle is a highly controversial thing. I've found that no two people agree on this subject. For best results, the rifle should be squared and then the reticle adjusted. The hunter will have to correct his

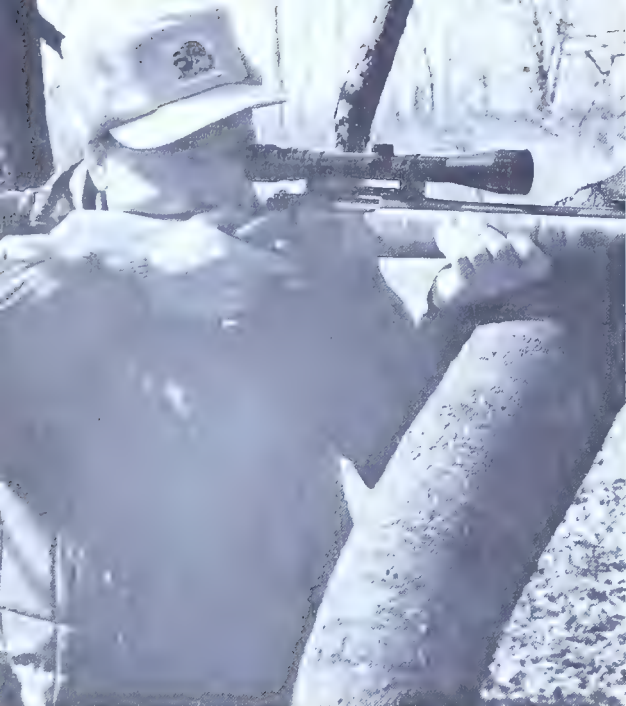
bad holding habits and learn to hold the rifle square. The fault mostly lies with the shooter.

If the barrel has either a front or rear sight slot cut in it, a gunsmith can use these slots to level the rifle before squaring the cross hairs. Most shooters have a tendency to cant (tilt) a rifle, and it's nearly impossible to convince them the reticle is actually squared unless some means is used to level the rifle while they are holding it against their shoulder.

Eye Focus

Eye focus causes more trouble than anything else. There is no standard way or happy medium in this important step. Eye focus must be for the man or woman who will use the scope. Once set for a particular person, there is no need to change it unless the shooting eye changes.

Many methods of focusing can be used, but I've found that screwing the eyepiece counterclockwise until the reticle becomes hazy and then starting from that point to focus is a suitable method. I have the owner point the scope skyward and screw the eyepiece clockwise a turn or two. I don't permit him to keep watching the reticle for more than a few seconds, since his



DON LEWIS FINDS Bausch & Lomb 2½-8x scope in Trophy mount works well on Sako 222 varmint rifle. Note that eye relief is about three inches.

eye will automatically focus on the reticle. I keep this procedure up until the cross hairs become sharp and distinct. The scope is now in focus for that person, and the eyepiece lock ring must be screwed tight against the eyepiece.

I've already explained about eye relief, but I might make the suggestion, since most scopes are installed in warm weather, to place a half-inch pad behind the buttplate when setting the eye relief to compensate for the heavy hunting coat. When the correct

distance is ascertained by trial and error, the shooter should be able to raise the rifle to his shoulder and immediately see through the scope. Some fellows prefer to have their scopes a little forward since they "hunch" into the rifle. This is a matter of personal preference, but, for the new scope user, it would be best to start off with the way I've stated. Later on, he can make any change that seems necessary to him.

Many Scopes Mounted Wrong

From my own observations over a period of many years, I sincerely believe that over 85 percent of all scoped rifles have one or more of the defects I mentioned. Most scope owners are not aware that their scope is not mounted right until one of these defects is pointed out. This has been made abundantly clear to me time and again, and a new feeling of confidence is generated in the owner when he finally knows that his scope is custom mounted for him.

Properly mounted and focused, the scope is unbeatable. Getting it on now and correcting any fault that may be in the scope or its mounting will assure a trouble free season ahead. How is this done? Again, my advice is simple and to the point: know your scope and how to use it long before the first day arrives. That will make this the most valuable article I have written in a long time. . . .

Looking Backward . . .

" . . . We commenced hunting deer about the first of July, and continued until November. The wolves and dogs hunting together, sometimes one and sometimes the other obtaining the deer, and if it fell into our hands we always left the wolves their portion to keep them near, for we considered them of great assistance to us in hunting. As there was no bounty on wolves at that time, and we had no sheep for them to kill, we never destroyed them. . . ."

Philip Tome, "Thirty Years a Hunter," p. 29, The Aurand Press, Harrisburg, 1928.

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS *Executive Director*

ROBERT S. LICHTENBERGER *Deputy Executive Director*

EDWARD T. DURKIN *Comptroller*

Division of Administration

DANIEL H. FACKLER *Chief*

Division of Research

DALE E. SHEFFER *Chief*

Division of Land Management

HARVEY A. ROBERTS *Chief*

Division of Law Enforcement

JAMES A. BROWN *Chief*

Division of Minerals

JOHN B. SEDAM *Chief*

Division of Propagation

RALPH E. BRITT *Chief*

Division of Information and Education

ROY W. TREXLER *Chief*

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188

BUTLER, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren. SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.

Phone: A.C. 412 238-9523 or 238-9524

Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641

Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.

SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.

Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.

Phone: A.C. 717 675-1143 or 675-1144

Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.

Phone: A.C. 215 926-6071

Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473. Phone: A.C. 215 287-8151

WESTERN GAME FARM—Jack N. Anderson, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212

LOYALSOCK GAME FARM—Charles Pfeiffer, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500

STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223. Phone: A.C. 814 275-2515

STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

HOWARD NURSERY

SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brookway 15824. Phone: A.C. 814 265-0456

PENNSYLVANIA DEER HARVEST, 1915-1970

ANTLERLESS

ANTLERED



28.59
16
vol. 42, no. 6

PENNSYLVANIA GAME NEWS

JUNE 1971

15 CENTS



PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION
MAY 21 1971

CHUCK
RIPPER

Published Monthly by the
PENNSYLVANIA GAME
COMMISSION

COMMONWEALTH OF
PENNSYLVANIA

Milton J. Shapp
Governor



COMMISSION MEMBERS

Edwin J. Brooks, President
Lansdale

Andrew C. Long, Vice-President
Shamokin

H. L. Buchanan, Secretary
Franklin

James A. Thompson
Pittsburgh

Loring H. Cramer
East Stroudsburg

Frederick M. Simpson
Huntingdon

Robert E. Fasnacht
Ephrata

Marshall E. Jetty
Brockway



Glenn L. Bowers
Executive Director



PENNSYLVANIA GAME NEWS

Robert S. Bell
Editor

R. Theodore Godshall
Associate Editor

John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
The Burma Ithaca	2
By Bob Latimer	
Beagles and Beagle Trials	7
By Nick Sisley	
How Old Is That Chick?	12
By Fred E. Hartman and Dale E. Sheffer	
Get a Bird's-Eye View of Your Hunt	15
By James R. Fazio	
Tamarack Swamp—A Relic Colony	19
By Albert G. Shimmel	
The Ways of the Wind	23
By Eugene R. Slatick	
Eastern White Oak	48
By Ken Calnon	

NEWS

Field Notes	34
Conservation News	39
By Ted Godshall	
Hunter Safety Education	44
By John C. Behel	

COLUMNS

A Naturalist's View of Wildlife (The Ring-necked Pheasant)	27
By Leonard Lee Rue, III	
Take Pictures This Year! (Camping)	50
By Les Rountree	
Winds of Change (Archery)	55
By Keith C. Schuyler	
Chucks With a Regular Rifle (Guns)	60
By Don Lewis	

COVER PAINTING BY CHUCK RIPPER

The black bear is one of Pennsylvania's most interesting animals. It is the largest carnivore in the state, with exceptional specimens weighing as much as 500 lbs., yet it is remarkably light on its feet, moving quietly through the forest despite a shambling gait. Its powerful hindquarters give it surprising speed—almost 30 mph—for short distances, and it climbs trees with ease. Though eyesight is poor, its senses of smell and hearing are excellent, and its shy nature normally makes it avoid humans. Cubs—usually two to five—are born in January or February. They weigh only about eight ounces each and it is 40 days before they open their eyes. By August they are weaned and by winter (which they may or may not spend with their mother) they will weigh from 60 to 100 lbs.

Published MONTHLY by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$1.50 per year; \$4 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved. **NOTICE:** Subscriptions received and processed by the last day of each month will begin with the second month following.

Printed by Times and News Publishing Co., Gettysburg, Pa.
Second Class Postage Paid at Gettysburg, Pa. 17325

The Problem Is People

NO MATTER HOW you cut it, in the end all of the troubles of the world can be traced to people. Quite often the biggest problems are caused by the well-intentioned—those idealists who, either through lack of information or inability to face facts, live in a sort of dream world. The situation exists in all fields, including wildlife management. It was stressed recently by Game Protector Wallace Woodring, on his retirement after over 28 years of service in Lancaster County. The biggest change he noted over this period, Woody said, was that Game Protectors now spend more time dealing with people—trying to make them aware of the facts of game management as opposed to common beliefs about it—than dealing with wildlife. His observations are true and such education is important. It is also a never-ending job, for countless people apparently get all their information on wildlife from just about the worst possible source—Walt Disney movies and television.

It's understandable that children of all ages get emotionally involved with creatures like gentle-eyed Bambi or whatever. That's what the producers intended and it's made millions of dollars for them. But there's no valid relationship between Hollywood's hocus and real life. Therefore, it's unfortunate when those who know the least about a given subject can create enough pressure to disrupt professionals who are trying to do their job. An example in neighboring New Jersey this past winter illustrates the point perfectly. Wildlife administrators there authorized a limited hunt to reduce an overpopulation of deer in a restricted area. A New York City organization called Friends of Animals, Inc., published a broadside featuring a scantily-clad model ridiculing the "psychotic behavior" of hunters and stating, in part, ". . . the only herd that needs trimming is the herd of hunters." It was signed by nine female show business personalities—Lauren Bacall, Gloria De Haven, June Havoc, Ali MacGraw, Sheila MacRae, Patrice Munsel, Betsy Palmer, Joanne Woodward and Gretchen Wyler—and was instrumental in having the hunt voided. I imagine this made the "Friends" happy. What matter that as a consequence a number of deer which would have been harvested cleanly and whose meat would have been utilized for food spent months starving to death so they could rot in their swamp? Perhaps these do-gooders are as proud of this as they are of having prevented the Jersey hunters from helping in sensible wildlife control. Their comment about trimming the herd of hunters was elaborated on by another woman, Martha Orbach, a member of a group called Friends of the Earth, who stated on the Barry Gray show, aired February 16 over station WMCA, New York: "The only good time I have during the entire hunting season is at the end of the season when they say 27 hunters mistook each other for deer . . . and were killed. . . . It's my fondest wish that all these people are terrible shots and they'll all be dead at the end of the hunt."

As I said earlier, our problem is people.—*Bob Bell*



An old 12-gauge Ithaca Model 37 slide action shotgun sits in my gun case, and it still looks quite good, though I must admit it's had its face lifted some since I brought it out of Burma in 1946. This was done by having it reblued, restocked and a ventilated rib installed. A lot of fodder has been run through this gun and the only replacements it ever required were a couple of new extractors. It is certainly holding up better than I am, and feel sure it will be good for another generation when I am finished with it. Just looking at it brings back a lot of memories of some of the best wing shooting that anyone ever could hope to enjoy. In one month this gun accounted for more game birds than the average gun does in a long lifetime. Let me tell you a little about . . .

THE BURMA ITHACA

By Bob Latimer

WHEN GETTING ready to ship overseas early in 1943, I did about like most others who "listened to the teacher"—packed a footlocker with enough toothpaste, shaving cream, razor blades, etc., to last a couple of years. What a mistake that was! What I should have done was put in a shotgun and then fill up the locker with shotshells. Found out that whenever you were where it was necessary to shave, you could get the "makin's" there, but you could wind up where shotguns and ammo were scarce and game abounded. That's exactly what happened to me!

This was in Assam, N.E. Frontier, India. There were snipe, jungle-fowl, Kallege pheasants, partridge, ducks and other winged game in numbers—and me with no shotgun. To anyone who liked to shoot as much as I did, it was a bit of a nightmare. We had as good a Mess Sgt. as ever walked—"Big Dick" Wilson, a Tennessee boy—but the rations we were drawing up at the end of the supply line didn't allow him much leeway, and seeing all that game that would have helped if we had a smoothbore to collect it made us both feel bad.

After being out there a couple months, I stumbled onto a Special Service setup that had a couple shotguns. They said no one seemed interested in small game and that these

guns went begging. Also said that no one "had their name on any papers" for them, and if I wanted one of them to make what was known as a "moonlight requisition." This I did and will always be grateful to the Sgt. who suggested it to me.

Now I had a gun—but shells were another matter. Learned of an Air Force Supply Squadron that had a godown stacked with cases of shells shipped out there to India for the fighter pilots to shoot skeet with, but no blue-rocks to shoot at. Naturally, I tried to sweet talk the Major in charge out of a few cases. Don't know if he was bucking to change the color of his Maple Leaves or what, but he sure didn't see things my way at all. You would have thought he was giving up his life blood, but he finally did give up six boxes. Of course, they didn't last long, this Major wouldn't stand for another touch and I was stuck again.

A lot of buckshot shells had been sent out there, supposedly for guard duty use. So I started to take the buckshot out of the shells and cut them up into little pieces with a butcher knife and hammer and put them back into the casings. This *can* be done, but I didn't get along very well with it—in fact, I can't recommend it at all to anyone who might think of trying it. Did obtain a few



BOB LATIMER with some snipe and doves taken in the Bhamo area of Burma, 1945, with the M37 Ithaca slide action he still uses for much of his hunting.

more boxes of fine shot from a source I can't remember. By nursing them and passing up anything but the very easiest shots, made them last till we went over the hills into Burma in May, 1944.

There we were attached to Merrill's Marauders and soon were in combat in the Battle of Myitkyina. This lasted till early in August. Didn't need any fine shot during that time, but stuffed full of buckshot this Ithaca sure felt good in heavy jungle. In fact, could have sold it several times for a good figure.

After Myitkyina fell, Merrill's and the Myitkyina Task Force were disbanded, the 10th Air Force moved in and we were attached to them for security work. With them we moved on down through North Burma to Bhamo, Lashio, Kutkai, and other places with similar sounding names. Had a lot of chance to hunt from then on till late 1945, when we pulled out to Bengal, getting ready to ship home.

Both large and winged game proved to be even more plentiful in that part of Burma than they had been in Assam. Many more snipe and jungle-

fowl, also a lot of the green peafowl. Was fortunate enough to become closely associated with an Anglo-Burman, Maj. Nevill Hill, a British civil affairs officer. He had been reared in that section, knew the people, and the country. He was a very keen shikari, an excellent wing-shot, and liked these doings as well as I did. We hunted a lot together. Another who helped me a lot was a Col. Schofield (formerly of Harrisburg, Pa.), who was with the 10th Air Force and liked to wing-shoot. He was in command for awhile on one strip we were on down there. He had enough brass on his collar to get some of those 12-gauge shells that were going to waste back in India sent down to us. Even after he was transferred back into India, when I would run short and get in touch with him, he would see that I got a case or two sent down to me. Will always be grateful to him for that. Kept our

AMONG OTHER GAME taken by Latimer, then a Lieutenant, were peacock (several tails shown), jungle-fowl, plover and pigeons.



mess much better supplied in that way. In fact, we ate somewhat better than most any outfit in Burma.

One big series of paddies above Bhamo had scads of doves working the waste rice after harvest. Shot about 50 a day there every day for a couple weeks. With about 100 doves for every other day, the Mess Sgt. would have a dove pie for the entire Company, with a dove for every man in it.

Burma Best for Snipe

Burma had long been known by the British for having the best snipe shooting known anywhere. Three species of snipe, the Pintail, the Fantail and the Swinhoe, were considered the most sporting. They flew just as fast as our jacksnipe, which they closely resembled. They hatch in China and Siberia, someone told me, and start migrating into North Burma in late August, moving on down in Burma to winter. They keep coming for weeks.

Found two good snipe flats near Bhamo, where we were stationed at that time in 1945. Had a good supply of shells then and hunted one of these flats every morning from 25 August to 24 September. Limited myself to two boxes of shells a morning and they would normally last from one to two hours. Didn't take over 36 or less than 24 daily for those 30 days. Along with the snipe would usually shoot a jungle-fowl or two and maybe a pair of golden plover. Thus, figure I averaged about 30 snipe a day for that period—or about 900 for the month. They kept dropping in during the night and there were more birds there when I left that section than when I started!

This may read to some like a slaughter, but want to state right here that you had to shoot to bag them and every one was used and made a welcome addition to regular Army chow. Besides that, I sure liked it! The Englishmen who lived out there claimed that of all the game in the East, the



THIS SAMBAR WAS taken by Latimer using the Ithaca and buckshot. He also bagged leopard, wild hogs and other species of deer with it.

snipe was surpassed by only the golden plover. I couldn't see that the plover was any better. The old story that I heard ever since I can remember, that one could not eat a quail a day for 30 consecutive days for any amount of money, does not hold true for snipe. I have done just that—and enjoyed 'em! Broiled so they are pink in the middle, they leave little to be desired.

Came out to Bengal the last of September in 1945, and was there till December, when I was shipped to the States. The C.O. of that airfield in Bengal, a Col. from Texas, liked to shoot and we hunted there most every evening for an hour or so. There were enough doves and a couple kinds of partridges there to make it interesting.

While I used this Ithaca in Asia it bagged all sorts of game—snipe, doves,



THIS WAS CHRISTMAS, 1941, IN BURMA. Lanier, Capt. Hill and hunters with jungle-fowl and a porcupine which the Machine thought was the best meat in the jungle.

partridge, Imperial pigeons, Green pigeons, jungle-fowl, ducks, peafowl, barking deer, hog deer, sambar deer, wild pig and a leopard. In recent years it has ridden a lot of miles in a sneak-boat and has accounted for itself very well—in fact, much better than I have in pointing it. It has a very tightly choked barrel on it and will down birds at extreme ranges—if I swing it out far enough ahead of them. One time on the North Branch of the Susquehanna, Keiser and I had a couple mallards down but not dead. In watching the ducks and trying to reload to finish them, I stuck a shell in the magazine backwards and the gun couldn't handle it. Think however if I did even that often enough, this ol' Ithaca 12 gauge would master that too!

One day last fall Bob Bell, the editor of this magazine, and I were sitting on a bank on a farm that had more pigeons than the owner thought he needed. We were doing all we could to help him out on this matter. The birds were flying fairly well and Bob had a gun—another Ithaca, incidentally, but an over-under—that opened enough for him to take good care of the close ones, while I worked on the ones that came over high. Guess I was a bit lucky in upsetting two or three that were a bit higher than anyone should shoot at . . . anyhow, he asked me where I got this gun. Told him something about it and he suggested I write it up, so here it is, and if you've had patience enough to read this far and you don't happen to like it—it's his fault!

Bob Bell

Speed and endurance are the European hare's primary defense against danger. It has been clocked at 60 miles an hour over a 100-yard stretch.

Beagles and Beagle Trials

By Nick Sisley

THE COTTONTAIL RABBIT is doubtless Pennsylvania's most hunted animal, and in all probability the beagle is the favored dog for such sport. Many registered beagle owners try their dogs at field trials, but my bet is that a lot of hunters have received some "not so favorable" reports about the dogs used in these meets. So-called "practical" hunters often disdain trial dogs, saying they are interested only in hounds that bring rabbits around so they get a shot, regardless of a dog's ancestry. Or perhaps you have heard that a field trial beagle is too slow, and will not do the job in the manner that the good old Pennsylvania rabbit hunter would like to see it done. As you might expect from such rumors, they are half-truths, at best.

The best rabbit dogs I have hunted over are those descended from field trial stock. I have never had the opportunity to hunt with a field champion, but am sure it would be a darn rewarding day afield, one with plenty of hound music, excitement of the chase, and shooting.

A close friend bought two dogs from a field trialer a few years ago. These dogs weren't quite "close" enough on checks for the trial judges, but they came darn close to being so. Hunting with these, I have had some of the most exciting rabbit chases ever. They have been run in field trials since, too—with some luck, I might add.

The thought that the field trial beagle is of little or no use to the hunter is ridiculous. I'll bet that 99 percent of the registered beagles in Pennsylvania have field trial stock somewhere in their lineage. More than likely it works the other way around. A beagle that is absolutely useless in field trials is not the best gun dog.



A PAIR OF BEAGLES hot on a bunny's tail makes the most satisfying sight—and sound—that many field trialers can imagine.

One of the main things that makes hunters think field trial beagles are too slow is a point of judgment. Judges will not put a beagle into the winner's circle unless he stays close to the actual line that the rabbit took. Does this mean they run a slower circle? If a dog stays with the scent line, never varying far from it, it is only common sense to assume he will run the rabbit just as fast as the dog which runs all over creation looking for scent. A dog that stays close to the line of scent does not waste time rang-

ing where the rabbit did not, in fact, run. At the average "check," he is immediately on his way following the rabbit.

A dog that does work close to the line is naturally a slower, more thorough worker. He walks the line at a pace to suit his nose. He doesn't force it as many fast chasers are prone to do, soon passing by the scent at the next check. If a cottontail is run rapidly it holes up that much quicker. We must take that point into consideration when choosing and judging our "hunting" rabbit dogs. To boot, if the rabbit circles ahead of a fast dog and doesn't go underground, he is likely to be running full tilt when he passes your stand.

Certainly firing at fleet rabbits is sport at its best, but who can fault the dog that brings the rabbit to his master at a more "hopping" pace? An easier shot is the result, and in most places that rabbits frequent today, the thickness of the cover dictates a slower running rabbit if we are going to have any chance at all for a shot.

The whole point is, don't downgrade

OCCASIONALLY, BEAGLES cross a mowed lane in pursuit of a rabbit. This gives the judges a good chance to watch their work.



rabbit dog field trials. They promote a dog that will get the job done on cottontails, make no mistake about that. It could well be that your favorite hound will hold his own at a field trial. Why not try him some time in the near future to find out? If he doesn't make the grade, you may become suspicious that there are indeed rabbit dogs better than your own, and further, you may be tempted to improve the quality of canines in your rabbit chasing pack. Field trials are the places to gain the insight to do so.

Pennsylvania is one of the top beagle field trialing states, perhaps number one, both in terms of numbers of field trials held, number of field trialing beaglers, and sheer numbers of beagles themselves. It is our hope that the ensuing explanation of what beagle trials are all about will get you more interested in this 12-month-a-year sport. (Rabbit season lasts about six weeks.)

Two Types of Trials

There are two types of beagle trials—licensed and sanctioned. Both are run under the auspices of the American Kennel Club. The AKC makes the rules which clubs must abide by, thus there is a needed degree of uniformity.

Licensed trials are for all-age dogs. That means a dog of any age may compete, and completely finished performance is the byword. The AKC awards championship points in licensed trials. A dog competing in these is working his way toward a championship.

Basically, here is what is involved. A dog needs three first-place wins in licensed trials plus 120 points before the AKC declares him a field champion. First, second, third, fourth, and NBQ (next best qualified hound) are awarded in these and all beagle events.

Let's say your dog wins second place in a stake in which 30 other dogs were entered. He gets 15 points because he is awarded points on one-half

the total number of dogs entered. Now before he is declared a field champion, he needs 105 more points and three first-place wins.

You run him in the next trial, and he wins first place in a field of 50 competitors. He is awarded 50 championship points. Now he needs two first place wins and 55 points. In the next trial, he gets a fourth place, but this time in a field of 20 dogs. He is awarded championship points for one-fourth the entry—5 points. Now he needs two firsts and 50 points. A third-place dog is awarded championship points for one-third the total dogs entered.

No "Shot in Dark"

So you see, a beagle that has managed to make his way to field champion status isn't a "shot in the dark" dog. It takes time and plenty of luck to make one. Any dog placing NBQ or lower does not attain any points toward the championship status. Many gun dogs of excellent quality never do get "finished."

Beagles compete in two different classes. Those 13 inches and under compete against one another, and those over 13 inches up to and including 15 inches compete against one another. This eliminates any size advantage one dog might have over another.

Also, males compete against males and females against females in most stakes. The reasoning here is not that one sex might be better than the other, but that beaglers whose females are in season are not prevented from competing. No female dog in heat is permitted to run in any type of field trial where males are competing.

The other type of beagle stake is the sanctioned trials. This is held for the following reasons or incentives: prize money, fun, trophies, ribbons, prestige, or as part of an elimination (qualifying) series leading to the biggest field trial in Beagledom—the International—held right here in Pennsylvania.



BEAGLES RUN IN two classes, 13" and under, and over 13" to and including 15". Judges measure them in this way, when necessary.

In sanctioned trials, the AKC awards no championship points. Many are for fun and ribbons, or perhaps a small trophy. If you own a beagle and it tickles your fancy to give this sport a try, these are the stakes to get your feet wet with. The more important the sanctioned trials are, the more demanding you are likely to find the competition.

The sanctioned competition reaches its height of keenness in the qualifying stakes that lead toward the International Beagle Federation Derby Championships. That major event is held each spring near the Greater Pittsburgh Airport at three beagle clubs in proximity to each other—the Corapolis Beagle Club, Imperial Beagle Club, and the Chartiers Valley Beagle Club.

These clubs have excellent grounds within a 15-minute drive of one another, and the trial is run simultaneously over all three. Even so, it took eight days of running to complete the International last year. The judges looked at a total of 322 dogs. They



THIS WINNER'S CIRCLE IS WHAT all beagle field triakers are aiming at, making it all something to take pride in.

weren't just run-of-the-mill rabbit dogs, either. Anyone who takes time to attend and observe this event quickly agrees that these are rabbit dogs par excellence — in fact, the best in the country.

(from "INTERNATIONAL" WORKS)

Here is how the International works. First there is the Futurity. This past year's Futurity stake, for instance, was for dogs born between July 1, 1967, and June 30, 1968. To be eligible, the breeder must enroll the litter within 12 months after whelping. The fee is \$3. In May of 1969, \$1 was then due for each dog. In September, another \$2 was due for each. Then in February, 1970, a final \$2 payment.

Any dog which had its fees paid was then eligible to run in the Futurity. At the International, a \$5 entry fee is paid, and "you take your chances." Last spring, 95 15-inch male beagles, 84 15-inch females, 35 13-inch males and 108 13-inch females were entered. As you can well imagine, a lot of dogs which had some or all of

their fees paid did not run. Perhaps they just didn't have what it takes, but there could be many other reasons, too.

It doesn't take a good head to figure that several thousand dollars can accrue in the "Futurity bank account." This is part of what the breeder and the owner who enter the International Futurity compete for. But far more important is the prestige derived from winning or even placing in this most important stake. Quite frankly, it's like winning the World Series. There's money in it, sure, but just being there and competing is something a beagler never forgets.

The International Derby Championship takes place immediately following the Futurity. Recall that a few paragraphs ago we mentioned qualifying and elimination stakes. Here is how they come into play.

Across the 48 contiguous states, there are 35 beagle associations that belong to the International Beagle Federation. Within these 35 associations are the individual beagle clubs.

If you have rabbit dogs and belong to a beagle club, perhaps it belongs to one of these 35 associations.

Early each spring, every individual beagle club in each of the 35 associations conducts a sanctioned qualifying field trial for derby dogs. For this past year's stakes these dogs were born between July 1, 1968, and June 30, 1969. They are just one year younger than the previously mentioned Futurity dogs.

A dog that places in the individual club trials is then eligible to compete in the 35 Association Championships. A dog that places in these stakes is qualified to run at the International Derby Championship.

With 35 associations sending a possible four dogs to the International (in each of the 15- and 13-inch classes), you can see how big this stake has grown. During the qualifying events, males and females are run together, no doubt because so many dogs are competing and there is just so much time to run them in. However, the discrimination between 13- and 15-inch dogs is still made. Once competing at the International, though, the separation between males and females is also made.

What does all this mean to the Pennsylvania rabbit hunter? First off it means that our state is a major breeding ground for top rabbit dogs. Rabbit hunters have plenty of opportunity to observe and purchase top quality gun dogs from men interested in field trialing first and foremost.

But additionally, our state offers unparalleled opportunity to compete in every type of beagle field trial event, from the fun trials held by individual

beagle clubs to the granddaddy of them all, the International.

The International originated in Columbus, Ohio, in 1930. The stake became too big for the limited grounds that section had to offer. In 1951, the International Beagle Federation moved to its current area in western Pennsylvania. The three beagle clubs previously mentioned have maintained excellent grounds to conduct this important trial since that time. At each club they have kennel facilities to keep many dogs. They also have kitchens that are well equipped for serving the large meals the big trialing crowd must have each lunch time.

Facilities Taxed to Utmost

Even so, the facilities are taxed to the utmost. Beagling has become big in general, but the International in particular seems to see no end to its growth. Year before last, people from 32 states signed the registry book during International Week. Signing is purely voluntary, so one can assume visitors from many states didn't get around to signing the book.

Many professional handlers also attend this stake. Last year well over 20 such pros ran dogs there. This is the biggest event for a specific breed held under the auspices of the American Kennel Club.

If by now you are getting the impression we are trying to point out the significance of this stake, you are right. And suffice to say you are missing a bet if you have a registered beagle and don't try field trialing. It's loads of fun, and ultimately you are bound to acquire better and better rabbit chasers, once you get into competition.

No Problem

Salamanders will grow a new leg if an old one is cut off.

Wonder If It's Important

Although snow fleas have existed for several million years, little is known about them, including their diets. It is believed they feed on either microscopic algae or diatoms.

How Old Is That Chick?

By Fred E. Hartman
PGC Wildlife Biologist

and

Dale E. Sheffer
Chief of Research

SPORTSMEN, farmers and nature lovers all get excited upon sighting their first pheasant brood of early summer. Perhaps you feel the same way upon seeing a brood of ringnecks in your favorite cover. Possibly around your residence or at your favorite spot in the country you keep track of a number of pheasant broods throughout the summer. No doubt you have questions, such as where was the nest, when did the hen start nesting, where did the parents winter, when did the chicks hatch, what foods are the chicks eating, and how old are the chicks now?

Answering this last question, which probably is the most important at the moment you sight the brood, is the purpose of this report. Knowing something about Nature's creatures not only enables one to understand the dynamics of a given wildlife population, but also makes one feel personally involved with life itself.

Data for Wildlife Manager

Studying pheasant broods and analyzing the findings gives the Wildlife Manager much information about the productivity of pheasants and factors that affect the success of their reproductive efforts. Information collected during routine surveys includes: (1) the number of chicks in a brood at various ages, (2) the number of chicks a brood loses from time of hatching until a certain age, e.g., 10 weeks, (3) the backdating of known-age broods to determine the duration of the hatching period and its main peak, (4) the correlation of this peak with weather conditions and timing of crop harvest,

(5) a success ratio determined by noting the number of hens with broods, (6) the amount of renesting, and (7) the types of cover used by broods.

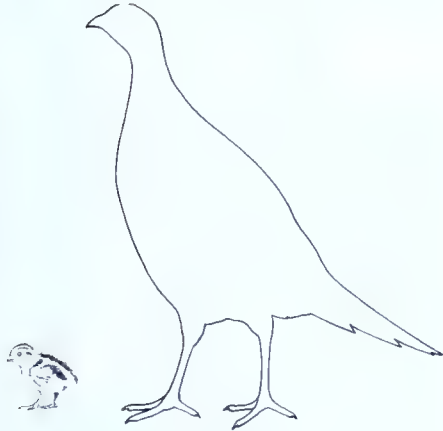
Given some data on each of the above, the Wildlife Biologist can make a good estimate of the success of our pheasants' reproductive efforts; he can also get an idea as to how many ringnecks will be available for the hunting season. In addition, by conducting standardized censuses along predetermined routes, an area's yearly pheasant productivity is compared with that for other years and other areas.

Pheasant research in Pennsylvania has produced a number of answers to the objectives listed above. Along with the answers, however, additional questions have arisen from our findings. Some results from our observations and studies of broods in the field follow:

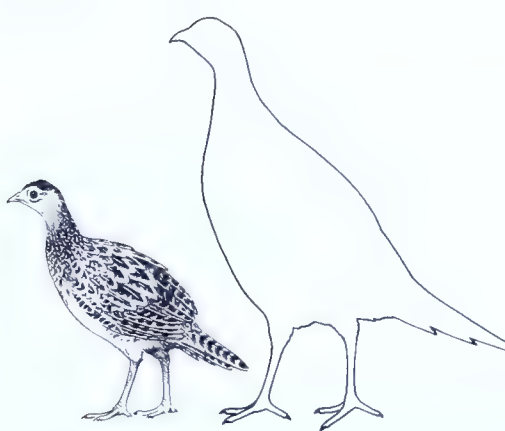
Most of our pheasant chicks hatch during the last week of May through the first three weeks of June. For the large expanse of primary range in the Southeast Division, the average peak hatching date is June 12.

Droughty weather frequently causes pheasant hens to start nesting earlier than normal, and also allows for earlier crop harvest. These conditions cause an early hatching period, usually with great nest destruction caused by farming operations. Wet weather conditions can delay hen nesting activities, the hatching period, and crop harvest, resulting in less destruction by farming operations.

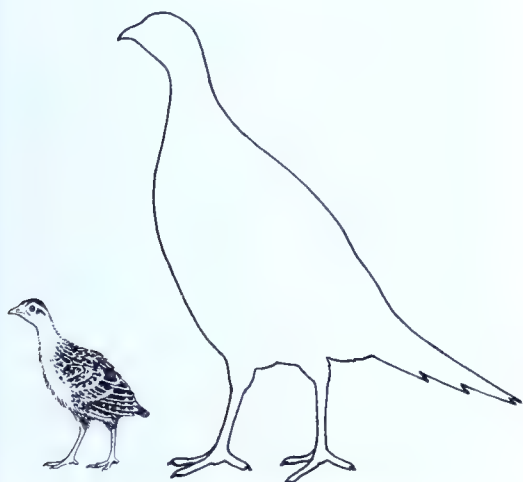
Our studies suggest that renesting



AGE 1 DAY—chick is "ball of fluff," has no visible feathers, three dark stripes on back, weighs about one oz. Outline represents hen.



AGE 6 WEEKS—uniformly feathered, male's neck and breast feathers becoming rufous colored, height $9\frac{1}{2}$ ", tail $3\frac{3}{4}$ ", male weight 12 oz.; female $9\frac{1}{4}$ oz. "V" pattern in male's replacement wing covert feathers.



AGE 2 WEEKS—wings mostly feathered, primaries $2\frac{1}{4}$ " long, feathers developing on back and flanks, breast downy, height $5\frac{1}{2}$ ", tail 1", weight about $2\frac{1}{2}$ oz.; makes short hop-type flights.



AGE 8 WEEKS—male half size of hen, rufous color prominent on breast, wattles turning red, height 11"; female height 10", weight $12\frac{1}{4}$ oz.

AGE 4 WEEKS—fully feathered except head, height $7\frac{1}{2}$ ", tail $2\frac{1}{4}$ " (longer than longest primaries in wing), weight 6 oz., innermost primary molted; good flier.



AGE 10 WEEKS—male's typical colors becoming prominent, height 12", weight 24 oz.; female 11" height, weight 16 oz.



can account for two to 22 percent of the broods on an area. Generally, nests that hatch after July 1 are considered renests. Some broods hatch in August or even early September. The latest brood we have record of hatched about September 6 in Greene County, as reported by Game Protector Theodore Vesloski.

A wet summer seems to favor re-nesting by creating environmental conditions more suitable for nesting throughout the growing season. Apparently, dry and exceptionally hot summers are just too extreme for pheasants to re-nest. A brood may lose 40 to 60 percent of its chicks by the time they are 10 weeks old. Adequate or above normal summer water conditions favor broods as they make continuous, lush growths of vegetation. Water and vegetation control the supply of insects, a chief item in a chick's diet. Frequently, fewer insects and scanty cover, which makes less protection from predators, are prevalent in droughty growing seasons.

The types of cover used most often by broods are idle and brushy areas, especially bottomlands, hayfields, and

small grain fields.

Normally 70 to 80 percent of the hens seen in the latter half of July and August have broods.

In primary pheasant range, one should see seven to 10 broods per 10 miles of road by driving rural roads about sunrise on a clear, calm day with a heavy dew.

In applying findings from the investigations of ringneck broods to the pheasant management program, it is possible to keep tabs on the reproductive success and obtain an early indication of prospects for the fall. Also, we know that pheasant chicks need safe brood cover, both permanent and semi-permanent. The use of pesticides must not be overdone; not only can they kill chicks, but they also can eliminate the chicks' food supply. The weather and natural factors that have an effect on nesting and broods cannot be regulated.

For those who enjoy the sight of a pheasant brood, we have included with this article a series of known-age chick drawings. With each illustration are distinguishing characteristics of the chick for a particular age. From this, perhaps you will be able to tell the age of the next brood you see.

Book Review . . .

Dick Mermon's calling card, presented to landowners when requesting permission to shoot, says: "My Business Is for the Birds." By birds, he means crows, for this self-described "decrower" has spent all his spare time for years hunting, studying and shooting crows. He's found that crows give as much shooting as claybirds and at the same time add the hunting interest which artificial targets lack. His studies are not a biologist's, but rather a hunter's, as his primary interest is getting the most shooting in the time available. With this view in mind, he gives a lot of good information on crows' habits, blinds, decoys, calls, camouflage for the hunter, and guns and loads. One point should be noted, though. As a New Yorker, he recommends the use of pump or semi-auto shotguns for crows because they hold five shells, but this number is illegal in Pennsylvania, where three is the maximum permitted. (*Crow Shooting Secrets*, by Dick Mermon, Winchester Press, 460 Park Avenue, New York, N. Y. 10022, 1970. 149 pp., illustrated, \$5.95.

Get a Bird's-Eye View of Your Hunt

By James R. Fazio

IN 1783, 120 years before Kittyhawk, a chap by the name of J. F. Pelatre de Rozier became the first man in history to get a truly bird's-eye view of earth. The marvelous feat was accomplished one bright autumn day as the first manned balloon sailed aloft into the heavens.

In a sense, de Rozier at last freed mankind from the earthly vantage points of treetop or mountain. Nonetheless, even today many outdoorsmen still think the best look at the surrounding countryside is the one they get from their favorite deer stand. Others, with money to spare, charter planes to scout from above, but often come down more disoriented than before they went up.

Aimé Laussedat did better than that way back about 1850! As a French army engineer, he was more interested in troop movements than wildlife, but what he developed could be the most useful hunting accessory you have ever purchased. Laussedat simply tied cameras to balloons and in so doing put his name down in history as the father of aerial photography.

Today aerial photos are available for every acre of the United States. All you need to know is what area you want to look at from on high, how to get copies of the photos, and how to use them to greatest advantage. Best of all, you can get this hawk's view for less than you'll probably spend on shells.

A Forester's Tool

The use of aerial photography is an old trick of the forestry trade. I learned it in college and have put it to good use on countless occasions both on and off the job. Whether



A POCKET stereoscope, a pair of aerial photos and a compass permit a hunter to study strange habitat before he ever leaves home.

making a timber survey in Montana or hunting rabbits in Pennsylvania, I feel perfectly at home in country I've never seen before on the ground. Even before leaving the house, I study every detail of the "new" land. I see it just as though it were below me. In three dimensions and bothered by no clouds or movement, the terrain, its vegetation, and all of man's additions appear to me in startling detail.

These photos I view are not merely snapshots taken from an airplane. They are a precise set of numbered and overlapping top-quality photos taken under exacting conditions. From about a mile high, the photos are snapped at regular intervals as the plane flies up and down flight lines much like a farm tractor working a field.

Each photo is then assigned a consecutive number, dated and marked at the upper edge with this important data. The prints are then produced on large squares of heavy duty paper. Because each photo overlaps but was taken from a different position in the air, any two that adjoin can be viewed in three dimensions. It works on exactly the same principle as the old-fashioned parlor stereoscope or the newer Viewmaster sets.

3-D With Naked Eye

With some practice, 3-D viewing may be achieved simply by staring at a pair of photos with the naked eye. However, with the aid of a pocket-size stereoscope, 3-D viewing is made easier and ground details are magnified several times. Stereoscopes are available from many outdoor equipment suppliers and any source of forestry or engineering equipment. Prices range from \$2 for a plastic pair to about \$15 for a good set that will last a lifetime.

If you still think you prefer a good old topo map, consider some of the advantages of the air photo system. To mention just a few, you can see details right down to individual trees, fallen logs in open areas, fences, houses or cabins, rock piles, and just about anything else you would expect to see from an airplane. You can easily distinguish a cornfield from a pasture or grown-up apple orchard, and a pine grove in a hardwood forest jumps right out at you.

While you can't quite see the deer, it should be obvious by now that you can surely locate their likely hangouts. The same goes for small game, for if you know what rabbit cover looks like on the ground, with a little practice you will be able to recognize it "from the air." The only difference—what would have meant miles of hard walking on the ground can be scanned in minutes before you even leave the comfort of your living room.

Out in the field, the tough paper

photos are easily carried in the game pouch of your jacket (put them in a plastic bag for protection) and the stereoscope takes up no more room than a few shells. At any time during your hunt, sit down on a rock ledge or hilltop and in no time at all you have a bird's-eye view of your exact location and every detail in the surrounding eight or more square miles.

Obtaining Aerial Photos

If you're convinced, here is how to order. If you want coverage of your own back 40 or some place else in your county, the easiest approach is to contact ASCS (Agricultural Stabilization and Conservation Service). Their office is usually in the county office building. Show them on a road map or topographic quad where you want coverage and they will help you fill out order form ASCS-441. At the usual scale of 1" = 1667 ft., a 9½" x 9½" print will cost about \$1.25.

But let's say you live in Philadelphia and plan to hunt in Utah's bookcliff country. To obtain photos from anywhere in the United States, here is an easy way to handle the whole thing by mail:

1. First write for a free copy of the map "Status of Aerial Photography." This map shows which government agency has aerial photo film of each county in the U. S. Write to: Map Information Office, U. S. Geological Survey, Washington, D. C. 20242.

2. From the above map, determine the agency that has photo coverage of the county in which you are interested. Counties are plainly shown and the address of each agency is listed right on the map. For a few counties, a commercial firm has done the pho-

Give

GAME NEWS

To a Friend . . .

tography. In this case, the office listed in step one can supply the name and address of the company to contact.

3. After determining who holds the film, send that agency or firm a detailed sketch, highway map, or best of all, a topographic map, showing the area you wish to view. Enclose \$2 and request an order blank and photo index covering that area. The photo index is a single sheet composite of numerous aerial photos in greatly reduced scale from which you may select those that show your area.

4. Using the price list and order blank, order prints by number from the photo index.

When you get your prints, don't be afraid to write on them. They are printed on special paper with a surface receptive to grease pencil or soft lead, both easily erasable time after time. Circle prospective hunting areas, delineate cover types, plot and draw your line of travel, mark kill locations, camp sites, boundary lines, etc. For precise work, poke a small pin through

the photo to mark your spot; they won't hide other details on the photo and by holding it up to the sky or other light source the holes become readily apparent.

If you really want to get serious, numerous books are available that teach the art and science of measuring distances, sizes, height of trees, cover density, or getting dozens of other measurements and uses from your photos. One book I can personally recommend is Eugene Avery's *Interpretation of Aerial Photos*, available from the Burgess Publishing Co., 426 S. Sixth St., Minneapolis, Minn. 55415.

Aerial photos are inexpensive, accurate, easy to obtain and limited in use only by your imagination. They are certainly not new, but are probably one of the most under-utilized tools available to sportsmen. Whether you plan to hunt, camp, fish or just explore new country, why not sit down some evening and plan your next trip from the air? You'll find a whole new world at your fingertips.

Book Review . . .

Two New Books in Arms and Armour Series

Two new hardbound monographs in Stackpole's Arms and Armour series are now available—*Blunderbusses*, by D. R. Baxter, and *Naval Swords*, by P. G. W. Annis. The first deals with a weapon which had its beginnings in Germany in the mid-16th Century and continued in use for three centuries. A short, full-stocked firearm, it usually had a brass barrel or large bore, flared at the muzzle, probably to make loading easier when used as a defensive weapon aboard a coach. The basic design spread into England, where it gained its highest recognition. Baxter's well illustrated book deals largely with the blunderbuss's history and development in this country.

Annis's *Naval Swords* gives detailed information on British and American naval edged weapons in the 1660-1815 period, the time which saw the Royal Navy gain worldwide stature and the U. S. Navy come into being. This book traces the evolution of naval swords from the adapted hunting-type models of the late 17th Century to the regulation cutlasses of the 19th Century. Development of the naval dirk also is covered.

Blunderbusses, by D. R. Baxter, 78 pp., 73 photos, 1970, \$4.95. *Naval Swords*, by P. G. W. Annis, 80 pp., 57 photos, 3 drawings, 1970, \$4.95. Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa. 17105.



Tamarack Swamp--A Relic Colony

By Albert G. Shimmel

THE LAND is guarded by a spell, some say. Youngsters smile and shake their heads at this, but those of many years insist that it is so.

The old ones tell a tale of half-forgotten days when far to the north a Sachem dreamed a spirit dream. He saw the ancient feuds brought to an end and warring tribes living at peace. Game filled the woods and all the rivers teemed with fish. The fields yielded abundant harvests. Happiness and contentment dwelt in every lodge. Sorrow and sadness were unknown.

Carrying his medicine bundle he went from council fire to council fire, driven by the magic vision of his mystic dream. He found no willing ears. "You would have warriors change to women's ways," they mocked, and cast him out.

Disconsolate he wandered south. After many weary moons he climbed a mountain in what is now northern Clinton County and found, nestled behind its highest shoulder, a beaver meadow rimmed by hills. The music of the pines below came softly to his ears. He found a ledge that overlooked the land. Quickly he built a tiny fire by rubbing balsam sticks, then from his medicine bundle he took his magic. With balsam gum, spruce needles and tamarack cones he fed the flames. Smoke swirled about him and flowed down over the land until it filled the hollow to the brim. He pulled his robe about him and fell asleep. He dreamed again of that far land of home. When he awoke the fire had burned until only the ashes marked the spot. The smoke had cleared. The land was changed. A portion of his home had been transported here. . . .

Much of the mystery remains until this day. Many things about the land

are unexplained. Why does the tamarack, bravest of the conifers, that travels farthest north of all the trees, find in this plateau swamp a home apart?

South of the glaciated areas of the Appalachian Mountains are isolated localities known to ecologists as relic colonies. Should a visitor from the north be transported without his knowledge and set down in the center of one of these colonies, he would feel perfectly at home. These muskegs (trembling earth) or bogs are generally set in a mountain plateau. Cold underground water seeping through the sphagnum which is in itself a natural insulator cools the roots of plants and evaporates moisture into the air. This cooling reduces the air temperature of the area by several degrees.

Associated with the sphagnum is pigeon-wheat moss (*Polytrichum*) and the grayish lichen commonly called reindeer moss. This is also a fugitive from arctic tundra lands. Both the sphagnum and pigeon-wheat mosses grow new plants above the old which are preserved and mat down into deep beds of acid peat. Associated with these deep peat beds are species of acid loving plants, including rhododendrons, azaleas and trailing arbutus. Many of the swamp orchids find the peaty bogs ideal habitat.

Wild Oxalis

The early visitors to the swamp will find among the evergreens that shade its border the purple-veined pink blossoms of the wood sorrel or wild oxalis growing as neighbors to the bunchberry with its square white blooms. In the fall these plants are marked by bunches of coral-red berries from which the plant takes its common name. Here are dewberry vines with

blossoms that remind the visitor of white stars.

As if to guard the interior of the swamp, a belt of alders grows so close together that it requires effort to penetrate its defenses. Sphagnum covers the foul smelling black muck interspersed with water puddles. During spring and summer hordes of mosquitoes, buck flies and other flying pests make strong insect repellent necessary.

When spring is at an end and summer at hand, one who perseveres and passes the sentry alders finds a wonderland of plant species. Leather leaf, several varieties of blueberry, bog rosemary and tamarack seedlings form dense, waist high thickets above the sphagnum beds. Game trails, cut deep by years of constant use, crisscross the wet tangle. Here and there a bit of open ground is covered by colonies of sundew. Along the game trails and borders of the openings, pitcher plants lift their red-veined vases to trap unwary insects.

The round-leaved sundew is an interesting plant. Bog soils are deficient in nitrogen. To supply this deficiency the plant uses digested animal protein. Its spatulate leaves are thickly grown

MANY UNUSUAL plants are found in Tamarack Swamp. The round-leaved sundew utilizes animal protein from insects to obtain the nitrogen which is deficient in bog soils.



with tiny hairs. Each hair is tipped with a glistening bead of sticky syrup. When an insect is attracted by the glistening material and the reddish color of the leaf, it becomes entrapped. Its struggles involve more and more of the hairs. They begin to curve inward toward the center of the leaf, carrying the luckless insect with them. They press the victim's body firmly against the leaf's surface. Here protein-digesting enzymes break down the insect tissues and thus the plant is fed. We may feel sympathy for the little black and brown ants that are entrapped, but when the magnifying glass reveals the pestiferous black fly and several sharp-billed mosquitoes caught in the sticky hairs, we secretly rejoice.

Pitcher Plant Everywhere

The pitcher plant is everywhere. In this particular bog there are few blooms. The blooming season is scattered over a period of as much as six weeks, due in all probability to the variation of the various streams that make up the underground water system and the slow warming of the sphagnum mats. When we find a bloom lifting its head above its rosette of water-filled pitchers, we are compelled to examine it carefully. Its coloring is a complementary mixture of red and green. The red is a maroon-red. Its red-lined sepals curve loosely over green petals fitted around the pistil. The inside of this umbrella is turned upward to protect it from all insects except those on which it depends for pollination. It is ironic that it should repay some of those benefactors by consuming their bodies in the soupy broth of its leaves.

This plant and its associates could be an interesting field of study for many. One species of mosquito even lays its eggs and matures its young in an environment that proves fatal to other insects. The plant does not always limit itself to insect prey. Juvenile mice, shrews and small birds have been found within its pitchers.

Within the confines of the bog where sphagnum tussocks rise above the seepage that sometimes floods the game trails, the cranberry lifts its pale blossoms suffused with rose pink. When the fruit matures they vary widely in size and shape. One variety is less than a quarter inch in diameter. This one is quite tart and has excellent keeping qualities. There is a large spherical berry that compares favorably with commercial varieties, and another with an elongated pear shape that gives it a very distinctive appearance.

The cranberries begin to color about the first of September and are fully ripe a month later. Bear and deer relish them. Meadow voles and white-footed mice cut the fruit, extract the seeds and store them for winter. In spite of their attractiveness many are overlooked. During the following summer it is not unusual to find berries that have been missed by foragers. Many are as firm and well preserved as they were at the moment of full ripeness. This is attributed to the insulating and antiseptic qualities of the sphagnum moss.

Marsh and sensitive fern are common through the area that comprises the western portion of the swamp. Here along the sluggish waterway will be found the snowy flowers and corpulent seed pods of the wild calla lily. In autumn the downy tufts of cotton grass furnish down for the winter nests of small animals.

Lake—Bog—Swamp

There is evidence that ancient beaver ponds or even a small lake occupied the area. By normal ecological process the lake became a bog and then a swamp. A few old beaver cuttings and wide, sparsely-timbered openings give clues to what has gone before.

The landscape is typically Canadian, with narrow spires of frost-pruned evergreens surrounding a more or less open amphitheater. Boone



THE DRY EDGES OF the swamp are favored by timber rattlers that feed on the chipmunks and small rodents which make their homes here.

Mountain is the divide between the swamp and Kettle Creek. Long ago the slopes of the mountain were covered by a stand of pine so dense that all the mountain except the swamp was a land of perpetual twilight. Circling the swamp was a thick grove of spruce, balsam and tamarack. Today, heroic stumps stand among the second-growth timber as monuments to the giants of the past.

The swamp is about nine-tenths of a mile from east to west and a mile from north to south. The area is irregular in shape, with the bog occupying about half the acreage. A tourist, driving north on Route 144 from Renova, will, just before he reaches the village of Tamarack that lies at the summit, see to the east the spruces, balsam and tamaracks that are a part of the unique landscape that dates back to the Ice Age.

Early settlers were fascinated by this region. Nine families settled in the highlands around Tamarack, finding the land to be productive under pioneer agricultural practices. Game was plentiful and influenced the settlement of the area.

In 1826 or '27, a family by the name of Kelley obtained a settler's grant

to 400 acres on the western side of the swamp. They built a cabin, cleared the land and reared a large family of children. Elk and deer were staple food during the first years. Wolves, bears and panthers harassed their domestic stock until intensive measures reduced their numbers. The streams of the region abounded with trout. Drury Run, which drains the swamp, was said to be lye colored from swamp stainings, supporting a large population of trout. Their pink flesh was as satisfying to the taste as their black backs and brilliant colors were pleasing to the eye.

Pioneer Hunters

Simeon Pfouts and Paul Shade were pioneer hunters who considered the Tamarack as their private hunting ground. They left an account of killing four panthers in one day and then returning the following day to kill another. One panther was reported to have been 11½ feet in length. The hindquarters were taken as meat and reported to be excellent in both texture and flavor.

Jacob Hammersley also roamed this area and for his success and skill was referred to as the champion hunter of Clinton County. He is said to have taken five elk in one day.

Lumbermen soon found the pines and spruce that surrounded the swamp and converted them into logs and spars. When their work was completed the swamp returned to its solitude. The elk, panthers and wolves vanished but the deer and bear still clung to this area and made the swamp their refuge. Second-growth timber gradually covered the scars of other days.

The dry edges of the swamp are favored by timber rattlesnakes that feed on chipmunks and small rodents. The northern flying squirrel is found nearby. The decaying stubs of tamaracks dot the swamp and are used for nesting sites by flickers and sparrow hawks. Many species of birds that nest in the Far North linger for con-

siderable time in this area. It is quite possible that investigators would find several species nesting here.

The spiral grain of these dead tamaracks forms an interesting design. Occasionally the three note song of the bluebird catches the visitor's ear. The nestlings are safely protected by a tamarack stub. The birds, like the medicine man of the legend, have been driven from their orchard homes by invaders from abroad. They have found a haven in the swamp.

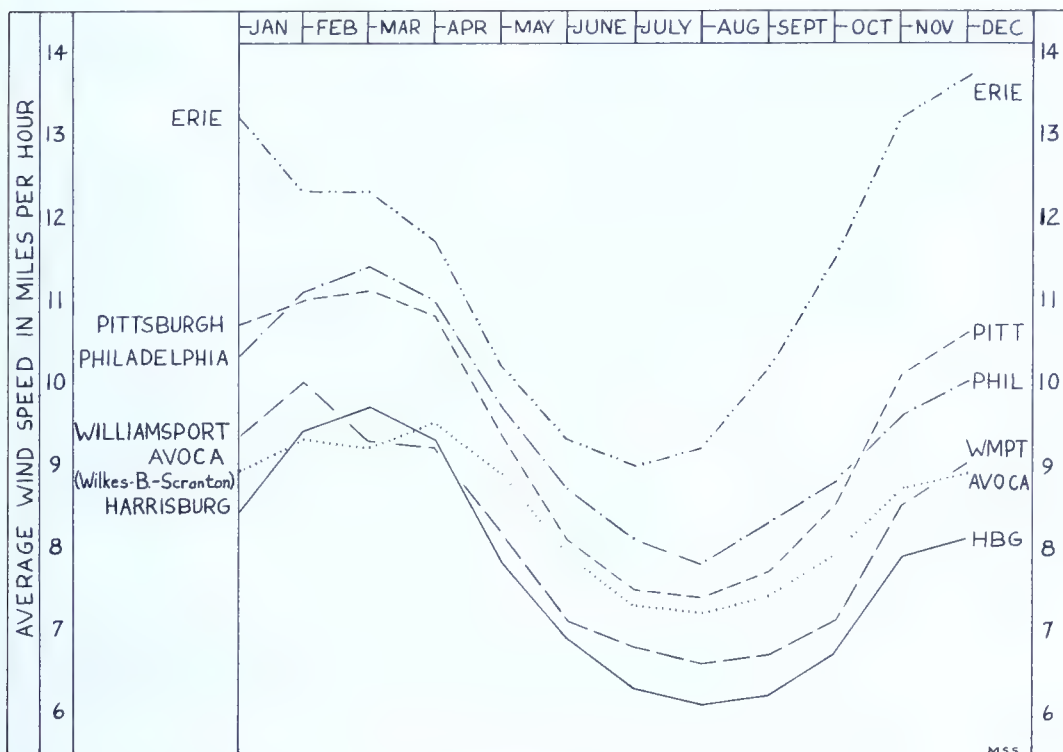
When on a summer night the thunder stalks across the mountain tops and herds the clouds with jagged lightning whips until they drop their rain, the old ones say it is the Sachem's drum and sacred fire. When, with the dawn, mists fill the swamp and rise along the chalice of the hills, then those who have the second sight can see the ancient one. He sits upon a mountain spur that overlooks the land. His braids are wrapped in sacred otter's fur. His chest is marked with mystic symbols done in blue. He holds a sacred pipe from which the mists arise. Beside him lies his silent drum. The ashes of his fire have ceased to glow. He sits and broods. His spell still holds the land.

The Sachem's Spell

On winter nights, when arctic winds sweep in, a ghostly wolf pack hunts again, a panther screams and herds of deer and elk shake the mountain with the drumming of their hoofs. The Sachem's spell has linked the present with the past. . . .

Moving?

Be sure to send change of address to **GAME NEWS** Circulation Department, P. O. Box 1567, Harrisburg, Pa. 17120. Send both new and old addresses; allow six weeks for processing.



The Ways of the Wind

By Eugene R. Slatick

ANYONE who spends time outdoors soon discovers that he has the wind as a companion—a somewhat changeable one. It can wipe the perspiration from your brow—and blow dust in your eyes. It can be gentle or jostling. It can hum or howl, cool or chill. The wind can spoil your hunting luck if it wafts your scent to your quarry or blows your shot off target. In all, the wind can make a day spent outdoors pleasant or uncomfortable.

Of course, the wind doesn't do such things on purpose or on command, for it is only air in motion. But such behavior made early man think that the wind was controlled by his gods. The early Greeks had a god named Aeolus who was in charge of the wind, which he kept in a large cave and released as needed or according to his fancy.

The Delaware Indians believed that the various winds were agents of the Great Spirit. In the past, sailors bought magical knotted string that allegedly could produce a wind whenever a knot was untied (undoing three knots was supposed to conjure up a storm).

The supernatural origin of wind was gradually discarded and man looked to nature for an explanation. One early idea was that a wind was produced whenever the earth "exhaled." Another was that wind occurred whenever water vapor changed into air.

Today we know that the wind is caused, in general, by the unequal heating of the earth and the air by the sun. This creates masses of cold and warm air that shift constantly across the earth, producing the moving air we call the wind. In addition to the horizontal movement of the air,

there is also an up-and-down circulation because warm air rises and cold air settles.

The earth's rotation helps set up major wind systems. Although the wind direction changes frequently, it comes most often from a certain direction in a particular area. In Pennsylvania the prevailing wind is from the west—anywhere from the southwest to northwest, depending on the region.

Wind Vanes

Trying to forecast the weather by watching changes in the wind is a pleasant way to increase your weather lore. Some type of wind vane is needed. A regular wind vane is best, but you can also use a flag or even a cloth streamer. Although mostly decorative today, wind vanes are actually ancient instruments that date back to early civilization. In the past, when weather forecasts were do-it-yourself tasks, wind vanes were practical devices. This is why they are sometimes called weather vanes.

The old saying, "Every wind has its weather," is generally true. When the edge of a mass of cold or warm air (called a cold or warm front) moves into your area, it usually is accompanied by a shift in the wind direction and a change in the weather. A cold air mass is often called a high-pressure area because the air in it is relatively heavier than in a warm air

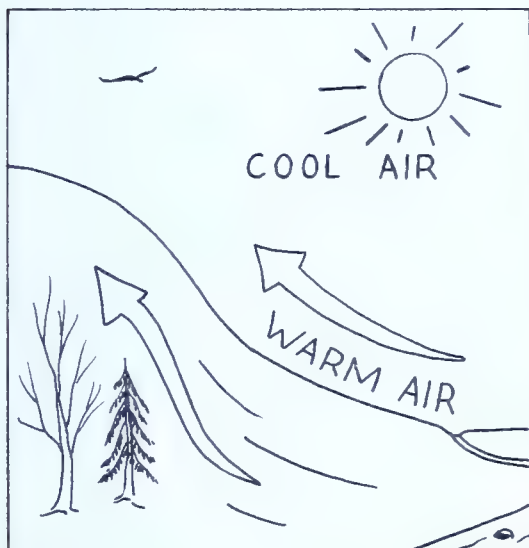
mass, which is called a low-pressure area. Cold air masses usually have relatively dry air; warm air masses usually have moist air.

In general, the wind and the weather go like this: When a cold front moves in, the wind generally is gusty and shifts clockwise abruptly to a westerly direction (southwest to northwest). So, a westerly wind usually means fair weather and often lower temperatures. Sometimes, however, a little precipitation accompanies the cold front. The approach of a warm front is heralded by a wind that is steadier and changes counterclockwise to an easterly direction (southeast to northeast). So, an easterly wind often means precipitation and higher temperatures. More refined amateur forecasting takes into account changes in the barometer.

Is the strongest wind always in March, as often claimed? Generally, but not always. The graph accompanying this article shows that the highest average wind speed is in December at Erie, in February at Williamsport, and in April at Avoca (Wilkes-Barre-Scranton). The graph also shows that the average wind speed is higher in winter than in summer. This is due to the greater differences in the air temperature. When the wind is high and the temperature is low, the wind's chilling effect makes you feel much colder (see "Wind Chill," GAME NEWS, November, 1969).

PHYSICAL SIGNS FOR ESTIMATING THE WIND SPEED

<i>Speed (mph)</i>	<i>Description</i>	<i>Signs</i>
0	Calm	Smoke rises
1-3	Light air	Smoke drifts in direction of wind
4-7	Light breeze	Felt on face, rustles leaves, moves wind vanes
8-12	Gentle breeze	Moves leaves and small twigs, extends flags
13-18	Moderate breeze	Moves small branches, lifts dust and paper
19-24	Fresh breeze	Sways small trees in leaf
25-31	Strong breeze	Moves large branches, whistles through wires
32-38	Moderate gale	Moves large trees, makes walking difficult
39-46	Fresh gale	Breaks twigs off trees, impedes movement
47-54	Strong gale	Causes slight damage to houses
55-63	Whole gale	Uproots trees, causes extensive damage to houses
64-75	Storm	Causes widespread damage
75+	Hurricane	Causes extensive damage



THE SUN STRIKING THE MOUNTAINSIDE in the morning warms it, causing uphill air movement. A reverse movement occurs in the evening, when the movement is downhill. Hunters should be aware of these currents.

High winds are not limited to the colder months. They can sweep across the state any time. The dates of some of the record-makers noted at Weather Bureau stations in relatively recent years (through 1969) are as follows, in miles per hour: Allentown, 81, June, 1964; Avoca, 60, February, 1956; Erie, 55, March, 1960; Harrisburg, 68, March, 1955; Philadelphia, 73, June, 1958; Pittsburgh, 58, February, 1967; and Williamsport, 78, July, 1951.

High winds and storms go together. During a thunderstorm the wind can exceed 50 mph. Hurricanes have winds over 75 mph. Tornadoes, or twisters, are winds that rotate at speeds of 100 to 200 mph or more. They are generally associated with severe thunderstorms and occur most frequently from April through June. Fortunately, these destructive winds are not common in the state. Waterspouts are tornadoes that occur over water; they generally are not as intense.

The wind that makes the mountains and large bodies of water so inviting during hot weather is not caused by

large air masses but by local differences in temperature. In the mountains the wind blows uphill during the day and downhill at night because of the heating and cooling of the mountain sides. The uphill breeze starts soon after the sun warms the mountain sides. It reaches a peak in the early afternoon, when the air in the valley is heated. The breeze develops because the air next to a mountain side is warmer than the air at the same elevation over the valley. This temperature difference produces a natural updraft along the mountain slope that draws the warm air from the valley. In the late afternoon the mountain slope begins to cool and the uphill breeze decreases. After sunset, the mountain side and the air next to it becomes colder than the ground and air in the valley. Then the cool air, being relatively heavy, starts to flow downhill like a stream of water. Dense brush and other obstructions can dam the cold air and form cold air pockets. The mountain and valley breezes are strongest on sunny days and clear nights, when the ground has the best

chance to heat up and then cool off.

A difference in air temperature also produces the breeze that blows off the sea or other large body of water. During the day, when the land is warmer than the water, the air over the land rises and the cooler air from over the water replaces it, creating the sea breeze. In general, the sea breeze starts about mid-morning and ends about sunset. At night, when the temperatures are reversed and the land is cooler than the water, the air over the land flows out to sea, creating the land breeze. This wind generally starts two or three hours after sunset. Sea and land breezes may be weak or absent if the wind associated with an approaching front is strong, or if a heavy cloud cover prevents the land from heating during the day.

The wind that we feel most of the time is classified as a breeze, most often a "light" breeze. The accompanying table gives various physical signs that you can use to estimate the wind speed. Inexpensive, hand-held wind meters are available if you want to measure the wind speed more accurately. The standard height for wind measurements is 20 feet above open ground. Because the wind is variable, a two-minute average is normally used.

The sound of the wind in the trees is so much a part of the woodland scene that its absence makes the woods seem strange. If you let your imagination go, the sound can easily become the voice of the woodland spirits—enchanting and mysterious.

But the sound can also be explained in matter-of-fact terms. It depends on the wind speed and the diameter of

the branches, twigs, and needles the wind blows across. Large, thick branches mumble in the wind in low tones. When the wind blows across a variety of sizes of twigs and branches, the chorus is mixed. Pine needles whistle because they are thin.

The wind is really a remarkable thing. Its ways are fascinating as well as beneficial, harmful, and simply annoying. The wind carries pollen to fertilize some plants—and to plague hay-fever sufferers. A fresh wind can sweep away polluted air—or it can direct smelly fumes your way. Sometimes the wind is so strong it wrestles with the tallest trees. Yet, many times it doesn't have the power to stir the leaves.

Watch the wind; feel it. Perhaps you will understand what early man meant when he called the wind a source of many things.

FOR FURTHER READING

Fire Weather: A guide for application of meteorological information to forest fire control operations, by Mark J. Schroeder and Charles C. Buck. U. S. Dept. of Agriculture. Forest Service. Agriculture Handbook 360. U. S. Government Printing Office, Washington, D. C. May, 1970. (A well-illustrated, good basic book about the weather, notwithstanding the title.)

Weather Elements: A text in elementary meteorology, by Thomas A. Blair and Robert C. Fite. Fifth edition. Prentice-Hall, Inc. Englewood Cliffs, N. J., 1965.

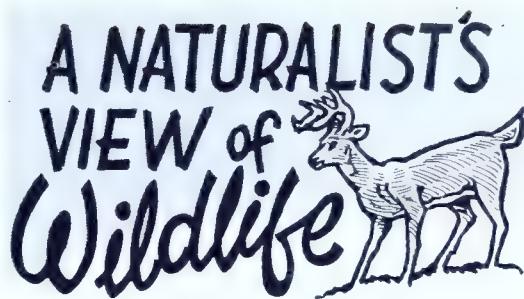
Weather Forecasting. U. S. Dept. of Commerce. Weather Bureau. U. S. Government Printing Office, Washington, D. C., 1952.

The Sager Weathercaster, by Raymond M. Sager and E. F. Sager. October House, Inc. New York, N. Y., 1969. (A dial computer and tables for weather forecasting, using observed weather factors.)

Game Commission Sells Deer Hides for \$5,633

Sales of deer hides during the past year netted the Pennsylvania Game Commission \$5,633.45. The average price paid for 1835 hides was \$3.07, the highest in many years. The figure is slightly below the total of \$5,822.48 received for 1944 hides one year earlier, when the average price per hide was \$2.92. The hides sold were recovered by Game Commission personnel from whitetails killed illegally, lawfully for crop damage, and accidentally on highways.

DRIVING FROM MY home to deliver a lecture for the Lancaster County Bird Club at Franklin and Marshall College in Lancaster, I traveled Route 22 through the rich limestone and farming region of Lehigh County. The month was April, which is the beginning of the pheasant breeding season in Pennsylvania. A male ring-necked pheasant is one of the most beautifully plumaged birds in the world and his feather and color development reaches its peak just prior to breeding. The birds I saw were magnificent. Many had tail



The first importation of the ringneck into North America occurred in New York. Prior to his death in 1733, and while he was Governor of that colony,

The Ring-necked Pheasant

Phasianus colchicus torquatus

By Leonard Lee Rue, III

feathers 22 to 24 inches long. Their enlarged cheek patches were the brightest blood-red imaginable. I counted 103 on a 45-mile stretch.

When I reached my destination I sat through the club meeting which preceded my presentation. A regular feature of most bird clubs is the census period when various members report the number and species of birds seen. At the end of this session I volunteered that I had just counted 103 pheasants—all dead. For the pheasants I had just counted had been killed by automobiles and lay on or alongside the highway.

Official figures released last year by the American Automobile Association say over 1,000,000 pieces of wildlife are killed on our nation's highways and roads every day, a total of 365,000,000 a year. A lot of Pennsylvania's pheasants contribute to that total.

The ring-necked pheasant is not native to North America. The pheasant now common in Pennsylvania was originally an oriental bird, with different strains coming from China, Mongolia, Korea, etc.

Col. John Montgomerie released six pairs of pheasants on what is now known as Governor's Island. The venture was successful for a short period of time and the pheasants spread to Long Island. The last record of those birds was made in 1736.

The next attempt to introduce pheasants into the New World was made by Richard Bache, Benjamin Franklin's son-in-law, who, although he lived in Philadelphia, had a large plantation across the river below what is now Camden, N. J. In 1760, he brought ring-necked pheasants from England and tried raising and releasing them on his plantation. His venture was doomed from the start because that area was just not suitable pheasant habitat then and it still is not today.

The first successful importation of pheasants into the United States was made by Judge Denny in 1881. In that year, Judge Denny, who was the U. S. consul general in China, sent 30 pheasants to his home in the Willamette Valley in Oregon. Two years later a second shipment was made,



and the birds have prospered there ever since.

In 1888, the first stocking in the eastern United States took place on the Rutherford Stuyvesant estate in Warren County, New Jersey. This undertaking was very successful and enough birds escaped to become established in the wild on their own. The New Jersey Game Commission started to import and raise pheasants in 1912 and the Pennsylvania Game Commission did likewise in 1915, when 2,096 were released.

During the late 1890s, small numbers of pheasants had been released in Lehigh and Northampton Counties by interested individuals. This stock was undoubtedly reinforced by escapee birds from New Jersey. I have often seen pheasants fly across the Delaware River when they were flushed in New Jersey. In any event, the pheasants increased in numbers so that Pennsylvania was able to declare its first open hunting season on them in 1902. Although the pheasant population increased, it needed the banning of shooting of hens, enacted in 1923, to start the population on its meteoric rise. In 1941, some 537,000 pheasants were taken in Pennsylvania and in recent years the hunting harvest has been about 1,000,000 annually. In 1970, approximately 200,000 ring-necked pheasants were raised on state game farms, by cooperators in the day-old chick program, or purchased. All were released for hunters' sport.

Most Important Game Bird

The pheasant has been the most important game bird introduced into this country, although it does not thrive in the South. The pheasant did not compete with our native species but filled the void created when such natives as the ruffed grouse and prairie chicken were extirpated by the inroads of agriculture. The pheasant is tied directly to farming activities. True, it often is found in swamplands and marshes, hedgerows and woods edges, but these are places of shelter, not

sustenance. The pheasant follows the plow.

I mentioned before that the pheasant population in the United States is subject to pendulum-like fluctuations. The greatest crash occurred in the early 1940s. During the late 1930s pheasants were increasing in numbers and in range. On our family farm they were very common and hunting them hard had little effect on their numbers. When their population crash occurred everyone sought some reason, some culprit, some solution.

Many people blamed the shift in farming practices that occurred in the 1940s. At this time generalized farming gave way to more specialized practices. Dairy farmers concentrated on dairying, raising alfalfa and corn, with some wheat also being grown. There was a definite shift away from the small grains such as oats, rye and buckwheat. It was argued that the loss of small grains to the pheasant was the cause of the slump.

Fox Exonerated

Many sportsmen blamed the predators, primarily the red fox and the great horned owls. The pheasant was and still is particularly vulnerable to the great horned owl during winter, when cover is at a minimum. The fox did and still does take an occasional pheasant, but extensive studies by many game departments have exonerated the fox from this accusation.

The most dramatic vindication of the red fox as a threat to pheasants came from Pelee Island, in the western end of Lake Erie. Most of the island's 10,000 acres are under cultivation and usually have an abnormally high pheasant population. When the pheasant population crashed all across the United States, so did the population on Pelee Island. However, the drop on Pelee Island could not possibly have been blamed on the red fox because there are no foxes on the island. Studies also were made to see if adverse weather conditions were the reason, but the results were negligible.

And we still do not know why the pheasant population crashed.

It is enough to know that although the pheasants have never again reached their peak of the early 1940s, they have stabilized with healthy populations over most of their former range.

Ideal pheasant habitat is one that provides food, water and protective winter cover. A thick brushy copse with a small spring run flowing through it adjacent to a field with some standing corn is a pheasant's seventh heaven.

A pheasant's diet is varied. It will feed upon grain, weed seeds, fallen fruit, insects and their egg cases and some greens. A cornfield that has been cut for silage offers nothing, whereas a field that has been harvested by a mechanical corn picker provides both food and shelter. It is not practical to try to manage lands just to increase the pheasant population, nor is it practical to attempt to feed pheasants on a large scale during the winter.

The simple reversal of the so-called "clean-farming" policy would be a substantial and feasible way to increase pheasants at no additional cost.

The male ring-necked pheasant is one of nature's gaudiest creations, yet the pheasant is such a master at concealment that it is as difficult to find a hiding cockbird as it is to find the somber-hued hen. Males reach their peak of sartorial splendor in late winter just prior to the breeding season. At this time their cheek patches are blood-red and an interesting side note is that the males with the largest cheek patches apparently are the dominant males in any given area.

In the spring, male pheasants fight bloody battles in acquiring territory and their harems. Four hens to one male is an average setup, although some really dominant males may acquire as many as eight hens.

By April the cocks are crowing, slugging it out with anything they consider a rival. Actually, it is the hens that select the male, accepting

MANY THOUSANDS OF RING-NECKED pheasants are killed on our highways each year. Lennie Lee Rue gathered these for this photo during a recent trip in southeastern Pennsylvania.



him, his territory and his attentions. To prove that he is more attractive than his rivals, the male engages in an elaborate courtship display for the benefit of the female. The male will drop one wing, spread his tail and tilt his body toward the hen, giving her the opportunity to enjoy his handsomeness.

Even before breeding, hormonal changes in the hen have directed her to seek out and prepare a nesting site. This will usually be in the heavy cover of a fencerow or the rank growth of a hayfield. The nest itself is a rather flimsy affair composed of a few grasses bent into shape by the hen's body. The average clutch consists of about 15 eggs that are an olive brown in color and about 1¾ inches in length.

Incubation takes 23 to 24 days and after it has been started the hen forms very strong attachments to the nest and can be approached very closely before flushing. During the incubation period, the hen and her eggs are subject to destruction by foxes, raccoons, skunks and blacksnakes. Man, however, is the greatest danger, and mowing operations sometimes wipe out one-third of the entire nesting population. Most pheasants will renest if their first nest is destroyed, but the later clutches are usually smaller.

Pheasant chicks are precocious. Within an hour or two after hatching, the entire brood will have been moved by the hen away from the nesting area. The greatest danger to chicks at this time is a chilling rain. The young birds grow rapidly on their protein-rich diet of insects. The devoted hen

will care for the young to the best of her ability, even employing the broken-wing trick to decoy potential danger away from her chicks.

Two-week-old chicks are capable of short flights. The pheasant is not a sustained flight bird, but its short, strong, cupped wings are capable of moving an adult bird at speeds up to about 45 mph. Most pheasants depend on their legs to run away from danger.

There is only one brood per year because summers in the temperate zone are just not long enough to allow for two. The young stay with the female for at least three months, with most broods being broken up during the hunting season.

All Look Like Mom

When first hatched all chicks look like their mother, but by fall the young males are mirrors of their fathers. Their spurs and tail are shorter and their weight lighter, but they are resplendent in adult plumage. The average male pheasant weighs 2½ to three pounds, although occasional individuals are heavier. The different strains of pheasants vary in size and weight, and of course most of the lighter birds fly faster than their heavier counterparts.

Extensive breeding and importation programs are constantly being carried out in an effort to make the pheasant more adaptable and to extend his range. These goals may be realized, but the pheasant is so close to perfection as a game bird in the area where he is now found that improvement seems to be wishful thinking.

Late Archery Season Closure Cuts Harvest

Closure of the extended archery season in the northcentral part of the state in 1971 apparently helped to contribute to a lower harvest during the late season, Game Commission records show. During the December 26-January 16 winter archery season, bowmen reported taking 508 deer. This compares with 566 taken during the extended season one year earlier, when the season was one week shorter. As expected, archers had their largest daily take of white-tails, 276, on the first day of the regular season, September 26.



PRESIDENT JUDGE Rob

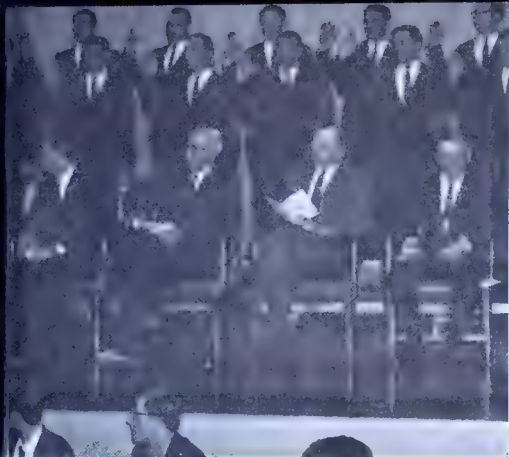
14th GCO

THE FOURTEEN Officers was gradu Conservation in Mar intensive year-long tr assignments to the fi Game Commission, se exercises, and Execut sent diplomas and tenant Governor Erne address.



TRAINEES enter Brockway Area High School auditorium, top. Above, James Ramsey speaks for class. Below, Lt. Gov. Ernest Kline delivers graduation address after introduction by Commission President E. J. Brooks.





is administers oaths of office.

Graduated

of Game Conservation
the Ross Leffler School of
two men completed the
now have received their
brooks, president of the
ter of ceremonies at the
Glenn L. Bowers pre-
to the graduates. Lieu-
delivered the graduation

PGC Photos by Joe Osman



EXECUTIVE DIRECTOR Glenn Bowers offers congratulations to Robert Clawson of Dover, Pa., during presentation of diplomas.

DEPUTY EXECUTIVE Director Robert Lichtenberger presents award to Wayne McGinness, of Avis, Pa., who qualified as the most improved shooter in the class during the training program.

GRADUATION DAY is a joyous one for officers and their families, as shown by photos at left and below.





FIELD NOTES



A Thousand What?

CLARION COUNTY—Recently a large flock of Canada geese flew over the Dubois area. A man who is not familiar with wildlife observed the flock on his way to work. He told his co-workers that he saw a huge flock of sea gulls. They then must have decided to have a little fun at his expense, because he told me that he saw over a thousand turkey buzzards that were flying to Ohio and must have got lost and crossed over Dubois by mistake.—District Game Protector J. G. Bowers, Knox.



Striped "Pooch"

McKEAN COUNTY—Upon receiving a call from a local landowner that a dog was chasing deer behind his house, I went there and the dog was pointed out to me in a nearby field. The field also had several deer calmly feeding in it at this time, which aroused my suspicion. Upon checking the black-and-white animal with my glasses, it turned out to be a skunk.—District Game Protector J. E. Rankin, Port Allegany.

Next Time—Movies

JUNIATA COUNTY — For most women an evening out usually consists of a meal, soft lights and music—very conducive to a happy home life. However, on Friday, March 12, I spoiled an evening out for a couple that didn't exactly prefer soft lights. More to the point, they used a spotlight. A husband and wife, with Mom holding the light, spotted a large doe along Shade Mountain, and Dad, using an old Japanese rifle that should have been junked and having only one shell that would fit, fired it and killed three deer (the doe was carrying twin fawns). When the bill came for this evening out, it was considerably more than a conventional one would have cost, plus loss of hunting rights for three years. To top off the unusual aspects of this case, the old rifle didn't even have sights.—District Game Protector R. P. Shaffer, Mifflintown.

Shoo, Shoo, Shoo, Baby

CUMBERLAND COUNTY — Dr. Hayduk, Camp Hill dentist, his wife and another couple went deer hunting. Shortly after they had taken their stands, a shot was fired. Believing his wife had shot, the doctor started in her direction. As he approached, he heard his wife saying . . . "Shoo shoo, go on, shoo." Upon reaching her, sure enough, she had a deer. Asked what all the shooing was about, she calmly explained: "After bagging my deer, several more were standing close by and I was trying to shoo them up to the other girl."—District Game Protector J. P. Filkosky, Mechanicsburg.

Now He Goes Hunting

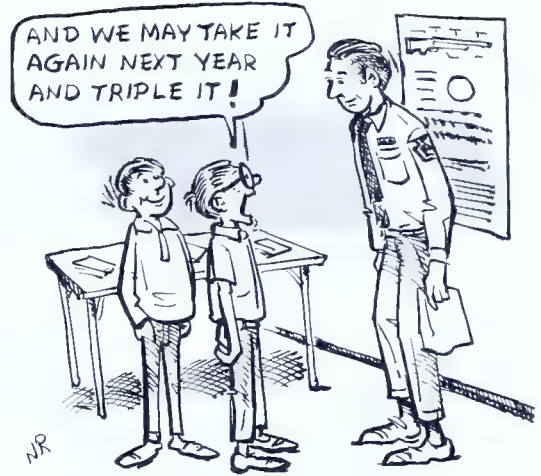
CRAWFORD COUNTY—William Kroski, of Spartansburg, recently told me about a hair-raising experience that happened many years ago on Clear Lake at Spartansburg. He was sitting in his boat one night near the middle of the lake, waiting for a fish to bite. Suddenly something grasped him on top of the head and at the same time something brushed against his shoulders. He made a startled grab at his head and flung the intruder into the boat. When he saw that it was a great blue heron, he grabbed it by the neck, swung it in a circle and flung it out into the darkness. Scratch one more fishing trip.—District Game Protector W. E. Lee, Titusville.

New Guy in Town

POTTER COUNTY—After graduation from the Training School, I had just obtained temporary headquarters in Galeton and was moving the last of my personal things to my room when the phone rang. The caller informed me of a road-killed deer. Before I could take care of this complaint, I had another call about a skunk under a lady's porch. Judging from this, it doesn't take long for the residents to learn that a new Game Protector is in the area.—District Game Protector L. P. Heade, Galeton.

He Should Know

LEBANON COUNTY—My wife really enjoyed the conversation between myself and a man who came to pay a fine involving the killing of a deer out of season. As he was leaving he said, "Boy, I wouldn't want your job." I replied that someone had to do it. He answered, "Yeah—or there wouldn't be any game left."—District Game Protector P. A. Hilbert, Cleona.



A Mathematician's Logic

PERRY COUNTY—Recently while presenting a hunter safety class to the sixth grade in the Green Park Elementary School, I noticed a few pupils who had taken the course last fall. When I asked one of the familiar faces why he was taking the course again, he stated, "The way I figure, if I take the course twice, I should be twice as smart as I was before I took the course the first time."—District Game Protector J. F. Serfass, Jr., Loysville.

Expensive Rodent

FRANKLIN COUNTY—I recently stopped in Horse Valley at the cabin of Mr. and Mrs. Holmes of Harrisburg. As I was standing in front of the fireplace getting warm, I observed one very small and very dead mouse lying on the mantle. Seeing me studying the mouse, Mr. Holmes said it was a \$127 mouse. He explained that when they came to the cabin he turned on the electric pump to get water in the camp. It seems the mouse had built a nest in the pump and caused it to burn up when it was run without water, and it cost \$127 to replace the pump.—District Game Protector J. D. Mort, Chambersburg.



How It Goes

VENANGO COUNTY — At the Cleveland Sports Show in March, I was talking to an Ohio man who loves to hunt in Pennsylvania, his wife who doesn't like hunting at all, and their teen-aged daughter. I asked the daughter if she hunts and she said she did at one time but not anymore. I asked why she stopped and she said she got too big for daddy's shoulders. —District Game Protector L. C. Yocum, Oil City.

Busy Place

WYOMING COUNTY — On March 27, Joe Chambers, local sportsman and pilot, treated Deputy Gaydos and me to a plane ride over State Game Lands 57. We were especially interested in locating several beaver dams to erect wood duck boxes. From up in the blue it was easy to spot the active or inactive beaver dams, also to get a picture of these tremendous mountainous Game Lands. State Game Lands 57 is some 2300 feet above the surrounding lands and on this date several feet of snow remained. We counted some 60 vehicles in a Game Commission parking lot and along Route 487. The crisscrossing trails of snowmobiles were evident on every trail and woods road. —District Game Protector A. J. Kriefski, Tunkhannock.

Something Different

CRAWFORD AND ERIE COUNTIES — A farmer from Erie County told me he saw a dog chasing a deer across his fields in January. He hopped on his snowmobile and gave pursuit, circling the dog and at last giving him a good bump with a ski. This put the dog in high gear in the opposite direction of the deer. —Land Manager A. D. Fichtner, Grand Valley.

Just Another Litterbug

CLEARFIELD COUNTY — Recently while patrolling State Game Lands 77 in the Clear Run section, Deputy Bill Pringle and I found a large (40-lb. or so) bundle of newspapers, advertisements and the like, all neatly tied and just as neatly dumped on the Game Lands road. Checking this little "present" we found that the culprit had taken great pains to remove the name and address from every piece of litter in the bundle. Isn't it a shame that this person could take the time and energy necessary to cover his trail this way instead of properly disposing of his trash. I can tell you a few things about our friend—he lives in Dubois, recently joined the P.O.E., and he subscribes to the *Dubois Courier* and the *Pittsburgh Press*. I hope to meet him, however, just to explain about the \$25 fine for dumping trash on State Game Lands. —District Game Protector G. J. Zeidler, Rockton.

All the Time Suggestions

ERIE COUNTY — After only three days on the job as a Game Protector I find myself confronted with problems already. One sportsman would like me to catch some deer and trade with Ontario for just half as many moose. —District Game Protector W. A. Lugaila, Waterford.

Look Under the "C"

NORTHAMPTON—I recently received a telephone call from a gentleman from Easton. He has just visited the SPCA in search of a dog or cat for a household pet. He couldn't make up his mind which he wanted, and eventually decided that a baby crow was more to his liking. As the SPCA did not happen to have any, the man called and asked if I had any "in stock." After concluding our telephone conversation, I went out to my Wildlife Warehouse and checked the bins to see just what I did have "in stock."—District Game Protector R. W. Anderson, Nazareth.

Now, Lemme See—

BLAIR COUNTY—To whom it may concern: If you should see a man in a Game Commission uniform driving along the highways with map in hand, stopping repeatedly to survey the surrounding area, do not become alarmed. The Game Protector is not necessarily lost, but more than likely is one of the recent graduates of the Training School trying to get acquainted with his new district.—District Game Protector H. L. Harshaw, Duncansville.

Whatsit?

BRADFORD COUNTY—Several weeks ago I was asked to examine an animal that had been hit by a car on the South Mountain. The driver said the animal didn't look like anything he had ever seen. In appearance and structure, the creature resembles a coydog. Several of these animals—crosses between coyotes and dogs—reportedly were killed in Bradford County during the past deer season. I am forwarding the skull to Carnegie Museum for positive identification.—District Game Protector W. A. Bower, Troy.

Things Are Tough All Over

BEDFORD COUNTY—After July 1 it will cost you more to read these notes. **GAME NEWS** subscription rates are going up.—District Game Protector T. C. Barney, Everett.



One Step, Two Steps . . .

MONTGOMERY COUNTY—Mr. Blakemore, U. S. Game Management Agent, and I were checking on some recent shipments of reptiles to a Philadelphia importer. What started out to be a routine day soon became very interesting. It was very hard to question the importer while sitting (very straight and quiet) between a puff adder and a spitting cobra, even with a very thin pane of glass between me and the snakes. At best my notes are hard to read after they are a couple of days old, but these are worse than usual. It appears my handwriting got bad at the point one of the snakes made a sudden move (but not as sudden as mine!) and the caretaker said, "Don't worry, that is a 'two-stepper'—if he bites you, you will get about two steps." All of this makes my job very interesting, but needless to say, I was rather glad to get out of the store and back to only an occasional copperhead or rattlesnake.—District Game Protector H. T. Nolf, Telford.



Sweet Tooth

BRADFORD COUNTY — Arthur Russell of Wysox contacted me during March concerning the rabbits at his place. Mr. Russell is in the maple syrup business and uses plastic pipe lines to carry the sap from the trees to the gathering tank. Some rabbits have been gnawing holes in the line to sample the sap. We are in hopes that the problem rabbits can be live-trapped and moved so Mr. Russell won't be plagued with any more leaks in his pipe lines.—District Game Protector A. D. Rockwell, Sayre.

Minor Ambitions

MERCER COUNTY — A pile of trash was found thrown upon the lands of a Safety Zone cooperator and Deputy Moors' investigation led to a local hippie-type individual. When questioned, he admitted his guilt, and after I explained the law to him he stated that he wanted to learn to play his guitar better and the 15 days in jail would give him a good chance to do so. When I told him it wouldn't be 15 days but at least 36, he went, "Oooh, I don't want to learn to play *that* good," and elected to settle on a field receipt instead of the jail term.—District Game Protector J. A. Badger, Mercer.

Always Lookin' for Loopholes

BLAIR COUNTY—While conducting a hunter safety course, I was explaining to the class the law governing the use of 22-caliber rimfire cartridges. There were the usual number of questions, and I emphasized the fact that this cartridge could not be used to hunt deer. One little fellow sitting in the front row appeared to be in deep thought. Suddenly he put his hand up and asked, "What if you were walking in the woods hunting squirrels with a 22, when suddenly a deer charged you. Would you be allowed to shoot it with a 22?" The entire class roared with laughter, and I was dumbfounded. This boy has to grow up to be a lawyer.—District Game Protector J. A. Lukas, Hollidaysburg.



Must Have Long Toes

WAYNE COUNTY — While on an investigation, I came upon a man who wore low-cut shoes and was generally ill equipped for the prevailing low temperatures and snow. I asked if his feet weren't cold and he said they had been but they were warm since he'd put his gloves on. I couldn't figure how wearing gloves could warm your feet, until he took off his shoes and there were the gloves on his feet.—District Game Protector F. G. Weigelt, Galilee.



CONSERVATION NEWS



By Ted Godshall

Why Hunters Should Harvest Spike Bucks

WITH ALL THE interest generated in the status of Pennsylvania's deer herd this year, some hunters have asked if there might be any advantage in protecting spike bucks. The Game Commission assures those concerned about the situation that protecting spike bucks in the state would be both biologically unsound and economically wasteful.

Spike bucks were protected in Pennsylvania for many years under the mistaken assumption that all were year-old deer which would develop larger antlers with more points as they became older. While some spike bucks may be only a year old, sub-standard antlers are not limited to this age group. Some spike bucks are four or more years old. Conversely, some yearling whitetails sport racks with 6, 8, 10 or even 12 points.

Food is one of the important factors in determining the size of antlers, thus the key to the spike buck question is the size and composition of Pennsylvania's overwintering population of deer. Available food supplies during the critical winter months of January, February and March determine how many whitetails can survive without excessive winter loss.

A Game Commission objective is to have only as many whitetails in the state at the end of the hunting seasons as the range can support in a healthy condition through the winter so as to maintain maximum fawn production.

Hunters report taking about 15,000 spike bucks among the approximately 100,000 deer harvested during hunting



Photo by Leonard Lee Rue, III

EXTENSIVE RESEARCH has proved that some bucks never get larger racks than spikes, thus they should not be protected so their "antlers can develop" as some hunters believe.

seasons. If these 15,000 spike bucks were not harvested, the total overwintering herd would be 15,000 larger than it now is, and the herd would require proportionately more food. This would mean additional winter loss in case of prolonged, severe weather.

In areas where deer food is scarce, the percentage of spike bucks in the herd is much higher than in localities where food supplies are adequate. In

counties such as Potter, Cameron, Clinton, McKean, Pike and Clearfield, spike bucks may make up almost half of the total antlered deer population. In counties such as Crawford, Venango or Westmoreland, only five percent or less of the buck population may have spikes.

Biologically, it doesn't make sense to remove the best bucks by harvesting and to save the inferior spikes for breeders. This only leads to a further deterioration of the herd and, in essence, culls the whitetail population in reverse. A cattle owner does not slaughter his best bulls and hold his scrawny stock for breeding.

Why Save Inferior Stock?

Some bucks never develop more than spikes throughout their lives. In fact, where range conditions are poor, there are quite a few yearling and two-year-old males, and even older, which are button bucks; these never even develop so much as legal spikes.

If spike bucks were protected and never could become legal targets, they might live for six or more years. Think of the volume of food these spike bucks would consume during their lifetime—enough to adequately nourish three times as many bucks sporting trophy racks in one, two or three years each.

The basic goal of the Game Commission in its deer management program is to produce the maximum number of harvestable animals consistent with other land uses and to regulate hunting so that the annual crop will be fully utilized. If hunters were not permitted to take spike

bucks, they would not be bagging the maximum number of harvestable animals or fully utilizing the annual crop.

Some hunters now complain—erroneously the Game Commission maintains—that there aren't enough harvestable whitetails in the state. How much greater will be their unrest if they are denied the opportunity to take the 15,000 spike bucks—which constitute about one-fourth of the antlered harvest—that they are now tagging?

Data gathered at deer checking stations indicate that the percentage of spike bucks in older deer increased in 1970, reflecting a food shortage in the 1969-70 winter in more sections of the deer range. This also means there were fewer bucks, percentage-wise, with trophy racks.

Legal protection was afforded spike bucks before 1953, but hunters consistently showed little regard for their status anyway. Many spike bucks were shot and left in the woods to rot—a shameful waste. It would have been far better that spike bucks were legal game and fully utilized. Certainly the Game Commission cannot condone such waste of this valuable resource today. Lest anyone doubt that the rate of occurrence was high, one study showed an average of one illegally killed spike buck per hundred acres in prime whitetail territory.

Finally, many hunters who killed illegal spikes and walked away from them continued to hunt and took a legal buck, thereby cheating other hunters out of the chance for shooting.

Schoolteachers—Please Note

Schoolteachers often have each student in a class write to the Game Commission, expressing an opinion on some policy or program or asking identical questions. We welcome suggestions, but since each letter requires an individual answer, such a procedure is very time-consuming for us. If only one letter were submitted by a class and the reply read to the group, our saving in time would be considerable and we would be better able to help others who contact us.

Over 40,000 Acres Cut for Deer Food

RECENTLY-COMPILED records show that more than 40,000 acres of woodland have been cut for deer food through Game Commission programs in the last five years.

Many sportsmen interested in deer herd management have been asking about browse cutting operations, wondering if a shift in the program wouldn't produce more food for white-tails and make it possible for the range to support more deer. The answer is partly yes and partly no.

Of the roughly 28 million acres in the state, the Game Commission owns only about one million, less than four percent. This is all of the land that can be managed exclusively for wildlife.

Even if an immense shift in the number of deer on State Game Lands were possible, it would result in only a relatively minor change in the overall Pennsylvania whitetail population.

Most whitetails taken by hunters come from property not owned by the Game Commission. The number of deer that it would be theoretically possible to produce on tracts owned by the Game Commission could never satisfy the wishes of the state's hunters. Other owners decide what to do with more than 96 percent of the acreage in the state. If they aren't managing their land primarily for the production of deer, there won't be as many whitetails as possible.

In some instances the Game Commission is able to provide better hunting on land it does not own through cooperative agreements with landowners and on state and national forests, but there is a limit to the extent to which these programs can be carried. The Game Commission just cannot go onto property that is privately or even publicly owned and start knocking down trees, even though more whitetail food and more deer might result.

Land management is by far the



PGC Photo by LMA Keith Hinman

MONEY DERIVED from the sale of antlerless deer licenses is required by law to be spent for browse cutting. In the past five years, the Game Commission has spent \$2½ million for this.

most important single element in Game Commission operations. In the most recent fiscal year, the Game Commission spent \$11,100,217.30. Of this, \$5,696,659.49, or 51.3 percent of all expenditures, went to the land development program. And of the habitat manipulation work, over 10 percent of the land management budget, \$649,189.79, was used to cut browse.

In the past five years the Game Commission has spent \$2,497,780.89 to cut browse. Since 1957, browse cutting operations have cost the Game Commission \$5,041,765.79.

Money derived from the sale of all antlerless deer licenses is required by law to be spent for browse cutting. In the past five years antlerless license sales have totaled \$1,945,939. Since 1957, the total has been \$4,119,758. So the sale of antlerless licenses isn't a money-making scheme as some continue to claim.

Of the 43,543.5 woodland acres cut through Game Commission programs between July 1, 1965, and June 30,

1970, some 12,680 acres were sold for timber. This produced \$894,802.59 in revenue for the Game Commission, in addition to deer browse. The timber is cut by commercial loggers at no expense to the state's sportsmen.

Costs of browse cutting vary according to terrain, species of trees cut, weather conditions, accessibility of cutting sites, etc. A realistic average might be at least \$100 per acre, although costs can run from \$40 to \$250 per acre. Therefore, even much larger expenditures won't necessarily mean a big increase in the number of acres of browse or whitetails which tree tips, twigs and buds might support.

Small Trees Utilized

Nor can just any tree be cut for either browse or timber. Lumber, of course, comes only from mature trees. Some species are preferable for pulpwood. In cutting operations designed strictly to produce deer browse, small trees are best utilized, since they produce maximum sprout growth.

With the current emphasis on conservation of all resources and the scarcity and price of some lumber, it would be quite wasteful to cut a veneer-quality cherry, for example, that may mature in a few years, just to obtain a few mouthfuls of deer browse.

Timber and browse are cut throughout the state. By sections of Pennsylvania, here are figures on the number of acres of commercial timber cut on State Game Lands in the past five

years: northwest, 1564; southwest, 2474; northcentral, 3680; southcentral, 1363; northeast, 2844; southeast, 755.

Here are acreages cut solely to produce deer browse by division of the state for the past five years: northwest, 6784.5; southwest, 3324.7; northcentral, 10,201.1; southcentral, 4616.4; northeast, 4241.9; southeast, 1694.9. All of these tracts were cut by Game Commission Food and Cover Corps employees.

The same amount of deer browse is produced, whether the trees are cut as commercial timber or strictly for browse.

Of the inquiries currently being made about land management practices and deer production, many concern the northcentral part of the state. In the 10-county northcentral area, the Game Commission owns just 272,130 of the 5.8 million acres. This is a very small percentage of the land that can be managed primarily for wildlife.

Some are asking if the northcentral division receives its "share" of the funds spent for land management. Here is a list of land management budget totals by divisions for the current fiscal year: northwest, \$559,647; southwest, \$471,012; northcentral, \$651,126; southcentral, \$593,244; northeast, \$641,157; southeast, \$457,906.

Northcentral's Expenditures

Some ask how funds derived from antlerless license sales and browse cutting expenditures compare for the northcentral division. In 1969, antlerless deer license sales for the 10 counties totaled \$130,710. Browse cutting expenditures totaled \$142,339.69 for wages, salaries, materials and supplies, but not including equipment, travel and transportation, administrative costs, etc.

However, browse cutting is at best a stopgap measure. It may help some in localized areas but should not be regarded as the final solution to the overall problem.

Lost Hunting Knife

While hunting last December near Claremont, McKean County, Charles Dickens of Savannah, N. Y., lost a high-quality hunting knife and sheath which had been given to him by his daughter. The name "Dickens" is stamped into the handle. If anyone has found this knife, it would be a very sportsmanlike gesture to return it.



Photo by CIA Don Madl and Ed Morasczyk, P.S.P.

FINE COOPERATION BETWEEN the Game Commission and the Pennsylvania State Police is shown by this photo from Washington County of Trooper Joseph Schweikert and DGP James Kazakavage. Troopers Fran Suppok and Peter Obolinski are in helicopter.

Must've Been Hungry!

Last deer season I drove my beige-colored Volkswagen into an old field. While sitting in the car trying to make up my mind which way to go, there was a noise like a lot of ice sliding off the roof. Looking from one side to the other, I could see a foot of wingtips flopping on each side. Then a gigantic bird—I think it was a hawk—flew off the roof and perched in a tree in a nearby fencerow. He sat there, turning his head from side to side and looking my car over as if he wanted to eat it. Then he flew off the tree, circled the car once more, and then flew away.—*Ward Rummel, Ebensburg, Pa.*

GAME NEWS

Enclosed find check or money order for \$_____ for my subscription to the Pennsylvania GAME NEWS.

☐ NEW

☐ RENEWAL

(Check One)

☐ 3 Years \$4

☐ 1 Year \$1.50

Name _____
(print plainly)

Address _____

City _____ State _____
(Zip Code)

NOTE: All remittances should be made payable to the
PENNSYLVANIA GAME COMMISSION
Post Office Box 1567, Harrisburg, Pa. 17120



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

HOW CLOSE?

JUST HOW CLOSE does Pennsylvania come to not having any hunting accidents? Closer than you think, I've learned from recording the accident reports and categorizing each accident. Although there are about a dozen recognized causes, it's obvious that the total number in all categories amounts to carelessness. Hunting accidents don't just happen, they are caused.

In Pennsylvania during 1970, 69 hunters reported being hit with just one shot pellet, either by ricochet, stray shot, or because the victim was in the line of fire. If the pellet caused a welt, broke the skin, or gave slightly deeper penetration, it was not categorized as serious. However, we are not trying to minimize the one-pellet accident; it could be a major injury if it struck an eye, or possibly of no significance at all if it hit thick clothing. No matter how you look at it, only the very fine line of chance makes the difference.

Then there is the philosophical attitude that "close" counts only in horseshoe pitching. This expression usually comes from the individual who hasn't been involved in such an accident. But consider one victim's feelings after a hunting accident that was a near fatality. "I paused for a rest from hunting woodchucks and sat down on a log," he explained. "As I bent over to look at the ground, I felt a sting on the back of my head. After I discovered a three-inch crease on my skull put there by a bullet from a 243-caliber rifle, I learned the of-

fender had mistaken my head for a woodchuck." "Close" counts here, let me tell you.

One of the largest categories in hunting accidents each year is "accidental discharge of a sporting arm in the hands of the hunter." How close can these be? Just close enough that they would not have occurred if everyone observed the most important rule of safe gun handling — always keeping the gun muzzle pointed in a safe direction. This prevents accidents and should need no further explanation.

Constant Reminders

I well remember my first hunter safety training from my father. Every day as we hunted, I was reminded to keep that gun pointed in a safe direction and asked if the safe was on. From this I developed habits that stay with me after all these years. Even though my father and I don't often get the opportunity to hunt together now, I can still hear his reminders—"How about the muzzle . . . is the safe on?"—and I make continual checks while hunting.

No record is kept of the times that guns discharge accidentally without causing accidents, but be assured there are many.

Experienced gun handlers state that if you handle a gun often enough, sooner or later it will discharge when you least expect it. They don't say accidentally discharge, because usually the safe is off and the finger is on the trigger. You know the situation—

loading and unloading, carrying gun off safe, thumb slipped off hammer when putting gun on safety position, and numerous other excuses such as, "I don't know what happened, it just went off." Just how close someone comes to being a casualty statistic depends on the precise direction the muzzle is pointing. A fraction of an inch can make the difference. As explained by one victim, "I was checking the safety on my rifle while it was resting on my shoe. The hammer slipped from under my thumb, hit the firing pin and the gun went off." Another explained, "I was on stand with a 410 bolt action shotgun. I had just put my hands on the muzzle when apparently something hit the trigger and the gun went off."

There are others: "Slipped on small branch and gun went off while I was raising up from fall." "I loaded my rifle with the barrel resting on my foot and the rifle discharged." "I was using a 32 Special lever action rifle, and as I tried to twirl it like on the 'Rifleman' program, it went off." And how many of us have watched movements through the scope of our rifle? I've put the scope on deer to look for horns, and get an uncertain feeling doing this. One experienced hunter told me that he has scoped deer many times, but always makes certain that the rifle's action is open or the bolt lifted. To say the least, it is like looking down the muzzle of a gun when another hunter is observed viewing your movements through his scope.

A graphic illustration of this practice came in on one hunting accident which stated, "Offender was unable to get a shot at the deer. In the excitement of sighting the deer, the father forgot to have son eject shell from chamber. He did, however, check that the gun was in the safe position. While father was getting set on stand, son peered through scope at his friends. Apparently the safety on the gun had been pushed off and trigger was accidentally touched off."



PGC Photo by CIA Fred Servey

THREE GENERATIONS of one Monroeville family enrolled in HS course conducted by Logan's Ferry Sportsmen's Club—Maurice E. Holtzer, 80, his son Maurice O. Holtzer, 50, Lynn, 14, and David, 12. Game Protector S. E. Lockerman was coordinator for the course.

That's how 112 such stories were reported as accidental discharges. With a little effort in safe gun handling, there would have been that many less for the 1970 hunting season.

Climbing Trees

More than the usual number of hunting accidents resulted from climbing trees. Although this type of hunting is discouraged, 20 persons contributed to Pennsylvania's accident statistics because they violated the cardinal rule of not unloading their firearms or providing a protective covering for arrows when climbing a tree. Here's one report: "Climbing a tree to examine a squirrel nest. In the process, victim dropped his shotgun. The gun struck a rock at the base of tree, butt first. The shotgun discharged, striking the victim." Another hunter wrote: "Injury caused while climbing a ladder type tree stand. Rested rifle at a lower level to ascend to top. At this point rifle slipped from hand and fell to ground and discharged."

Even when using an apparently safe method, injuries are sometimes caused. One archer reported: "Was up in tree

hunting deer when I shot a buck. I always carry a string to pull up and lower bow and arrows. When I lowered my bow down onto the ground it came to rest at a 45-degree angle at the bottom of tree. In haste to get down, I struck my leg on arrow." Another archer was climbing a tree with an arrow. After hanging bow on a limb above, he brought his left leg up, striking head of the arrow which penetrated the inside of his thigh. A third archer complained — loudly!— when his buddy stuck an arrow in his backside climbing a tree after him.

Other Casualty Causes

Additional categories of hunting accidents, as with the earlier ones, could have been prevented. Placing a sporting arm against a tree, car, fence, or other obstacle where it can be knocked over, is obviously dangerous, as is dropping a gun, using a defective sporting arm, or using a sporting arm as a club. These account for the remaining hunting accidents each year—about 10 percent of the total. Over 25 percent of all accidents occur when a firearm is accidentally discharged while in the hands of the hunter.

Another 15 percent results from ricocheting shot, bullets or arrows. The category "person in line of fire"

accounts for 45 percent. "Mistaking a person for game" adds about another five percent to each year's total. How does a person look like a deer, turkey or a woodchuck, you might wonder. Well, it is possible (write to the Game Commission for a revealing article on the subject, "What Do You See?"), but these accidents can be eliminated if all the rules of safe gun handling are observed.

Year after year, accidents follow the same patterns. However, there is one encouraging aspect. Hunting accidents have shown a decrease during the second year of compulsory hunter safety, even though the number of hunters increased. Another important consideration is fluorescent orange clothing. More of it is being worn by hunters now than formerly. It is also encouraging to note that during the 1970 season, for the first time in many years, no accidents were reported in the category "using a sporting arm as a club."

And so the information on the problems of hunting safely is being provided. You must provide the proper attitude. If no accidents are reported in one category, we feel that sporting arms can be handled so safely that there need be no accidents in any category. This is our target.

The "25-Yard Law" and Woodchuck Hunting

Inquiries have been received by the Game Commission concerning the section of The Game Law concerned with "road hunting" and how it applies to woodchuck hunters. It is unlawful for any person, after alighting from a motor vehicle being driven on, or stopped on or along a public highway, or road open to public travel, to shoot at any wild bird or animal while the person doing the shooting is within 25 yards of the traveled portion of a highway or road open to public travel. Law Enforcement Chief James A. Brown points out that the intent of the law is to curtail the practice of hunters sighting a bird or animal from a moving vehicle, stopping, jumping out of the vehicle and shooting. To comply with the law, a hunter, after spotting a woodchuck from a moving vehicle and alighting, must move at least 25 yards from the traveled portion of the highway before shooting at the groundhog, Brown says. According to the Game Commission's law enforcement chief, the law is not intended to prohibit a woodchuck hunter legally parked along a highway for the purpose of entering the field for an extended period of time from shooting within the 25-yard zone.

A Digest of Information Compiled From Reports of Hunting Accidents in Pennsylvania in 1970

CASUALTY

Fatal	
Self-inflicted	6
Inflicted by others	17
Non-fatal	
Self-inflicted	104
Inflicted by others	328

SPORTING ARM USED

	Fatal	Non-fatal	
Shotgun			
Self-inflicted	5	38	43
Inflicted by others	5	274	279
Rifle			
Self-inflicted	1	38	39
Inflicted by others	12	50	62
Revolvers			
Self-inflicted	0	10	10
Inflicted by others	1	0	1
Bow and Arrow			
Self-inflicted	0	18	18
Inflicted by others ..	0	3	3

BIRD OR ANIMAL HUNTED

Upland small game	9	301	310
Deer	8	74	82
Bear	0	0	0
Woodchuck	5	29	34
Others	1	28	29

SAFETY COLOR WORN BY VICTIMS

Fluorescent orange	8
Red	193
Yellow	19
None	155

AGES OF VICTIMS

Under 12 years of age	4
12 to 15 years of age	53
16 to 20 years of age	98
21 years of age and over	297
Age not reported	3

AGES OF PERSONS INFLECTING INJURY

12 to 15 years of age	38
16 to 20 years of age	55
21 years of age and over	145
Age not reported	107

CASUALTY CAUSES

Sporting arm in dangerous position	17
Accidental discharge	112
Ricochet or stray	60
Victim in line of fire	217
Hunter slipped and/or fell	9
Hunter dropped sporting arm	13
Shot in mistake for game	21
Sporting arm defective	6
Using sporting arm as club	0

PLACE OF ACCIDENT

Fields	120
Brush	99
Open woodland	82
Dense woodland	99
Water	6
Conveyance	11
Camp	5
Wood road or public highway	33

SUMMARY OF ALL CLASSES OF 1970 HUNTING ACCIDENTS

FATAL	23	NON-FATAL	432	TOTAL	455
-------------	----	-----------------	-----	-------------	-----

SUMMARY OF SAFETY COLOR WORN BY VICTIMS

	Fl.	O.	Y.	R.	N.
Victim mistaken for game	0		2	7	12
Victim not seen by offender	0		3	63	67
Color not factor in hunting accident	88		14	123	76

Get Away From It All

Snakes hibernate in dens below the frost line during winter months to keep from freezing to death. They have no control over their body temperatures.

An Imported Problem

Gypsy moths were introduced into this country in 1869. They now infest most of New England, eastern New York, New Jersey and eastern Pennsylvania.



Eastern White Oak

Quercus alba Linnaeus

By Ken Calnon

A BRIGHT November sun warms the forest floor beneath the wide spreading branches of the ancient white oak tree. A male wild turkey, his bronze plumage glistening in the sunlight, scratches among the leafy litter searching for acorns. At regular intervals, his blue head comes to attention; dark, beady eyes carefully survey the surrounding area for the faintest sign of danger. High in the oak tree, a gray squirrel is busy cutting off the ends of acorn-laden branches, allowing them to drop to the ground. Flitting from branch to branch, a boisterous blue jay gives its shrill cry. He, too, is feeding on the acorns.

The 350-year-old patriarch of Stone Cabin Hollow has witnessed this scene many times before. If the great tree could talk, it would tell many inter-

esting tales about the Shawnee Indians, whose trail passed beneath its mighty limbs, and about the pioneers who hunted the panther, wolf, wildcat, bear and deer that lived in the hollow and the surrounding area. Also, it would boast of its great strength, and how it withstood the severe wind storm which had destroyed several of the larger trees that had grown on the slopes of the hollow.

Leaves—White oak leaves are from 5 to 9 inches long and about half as wide. Overall leaf outline is obovate (egg-shaped with the narrower end at the base), with 5 to 9 (usually 7) rounded lobes. Frequently, leaves have deep sinuses (the space between the lobes) and long narrow rounded lobes; others have shallow sinuses and broad rounded lobes. White oak leaves are totally smooth, bright green above,



and slightly whitened below, with smooth margins.

Flowers—Staminate (male) flowers in pendant aments (clusters) near the ends of the twigs; pistillate (female), flowers solitary or in several-flowered spikes in new leaf axils. Single trees are monoecious, having both male and female flowers.

Fruit—Acorns are small, oblong, about $\frac{3}{4}$ inch long, shiny brown in color; they mature in one year.

Bark—Pale gray, but variable in appearance. Some trees are shallowly fissured, with long, irregular scales; others are deeply furrowed with distinct ridges broken into oblong blocks.

Habitat—White oak is tolerant of most soils, except those that are extremely wet. It is found growing on dry ridge-tops and in damp bottom lands alike.

Wood—Medium heavy (48 pounds to the cubic foot, dry weight), very hard, strong and durable.

White oak wood is strong, tough, and extremely close-grained. Because

of its great strength, white oak lumber is used for the construction of railroad cars, heavy duty boxes, shipping crates, pallets, and railroad ties. White oak wood is widely used in making fine furniture—radio, television, phonograph, and sewing machine cabinets, coffee and end tables, etc. It also makes excellent hardwood flooring for homes.

Growth of white oak trees is very slow, but the species is capable of living 500 years. Trees of this age have trunks up to 5 feet in diameter. Open grown trees have short massive trunks, with thick, spreading branches, giving the tree outline a semi-circular appearance. However, when forest grown, the tree has a long clean trunk, with only a slight taper to the first branches of its narrow top.

The white oak's combination of strength, toughness, hardness, durability and attractive grain, makes it the most outstanding species of the oak family. Truly, white oak trees are among the elite of the forest.

We Have More Today—Not Less

The number of big game animals living on 187,000,000 acres of national forests and grasslands was an estimated 4,500,000 in 1968. In 1928, the estimate was 900,000.



IT'S THE ORDINARY ACTIVITIES around camp, such as preparing a meal, which make memorable photos for the years to come.

Take Pictures This Year!

By Alan Freeman

THE PEOPLE who make it their business to collect such facts and figures tell us that over \$2 billion are spent by photographers in the United States each year to snap the shutters on over four billion photographs. That is a powerful lot of picture taking. Most of these photos are not clicked off by professionals, but rather are taken by real duffers like the most of us . . . tickled to death when some of them "turn out" well. Because the editor of GAME NEWS insisted, it became my lot in life to learn how to take pictures with some consistency. There still are days that find my photos somewhat less than perfect, so I can talk about photography with considerable humility. I have been having better luck in recent years due, in part, to better equipment. But almost anyone with almost any kind of camera can record his camping activi-

ties and have most of his pictures turn out well. All he needs is patience, a fairly steady hand and more patience.

Unless you have an excess of money, don't rush into the picture taking business with a flourish. Some of the greatest photographs ever produced were captured with dime store film on a \$2.98 box camera. I'm not kidding about this. Given good light conditions and an owner who can "see" a picture and hold the box steady, some of the old, extremely-simple cameras are capable of doing excellent work. I'm not suggesting that you buy one of these relics (I doubt if you could find one for sale anyway) but if that's all you have and you don't feel like buying anything else for the time being, read on. Most of this column applies to the picture taking and not to the equipment used.

Most people are not naturally pho-

togenic. Unless your subject is a professional model or extremely uninhibited, your pictures will have that "frozen" quality that characterizes most album shots. When shooting (with a camera, of course) ordinary people in ordinary situations, *don't announce* that you are going to take a picture. The best shots are usually those that are snapped when the subject is off guard. Even when you line the whole group up in front of the camper, don't take the picture when everyone thinks you are shooting. Unless you are a professional and know exactly what you want, try for the unexpected shot. Get everyone all set and then say something like, "Okay, I've got it," and then just as everyone relaxes for an instant—shoot the picture. The frozen faces and pasted-on smiles will have disappeared and the resulting photo is usually more interesting. Another stunt is shoot the picture before your models are ready. Get them all situated the way you want and *before* you give the magic words, "Hold it," shoot the picture.

Get 'Em Off Guard

Throwing your subjects off guard, or at least into a natural attitude, is standard operating procedure for the best professionals in the world. An interesting television program aired last February illustrated this technique to perfection. The television cameras followed two of America's best photographers through assignments that were totally different, yet both used exactly the same approach. They simply followed their subjects around, making small talk and became such a familiar part of the surroundings that they were able to shoot pictures which had



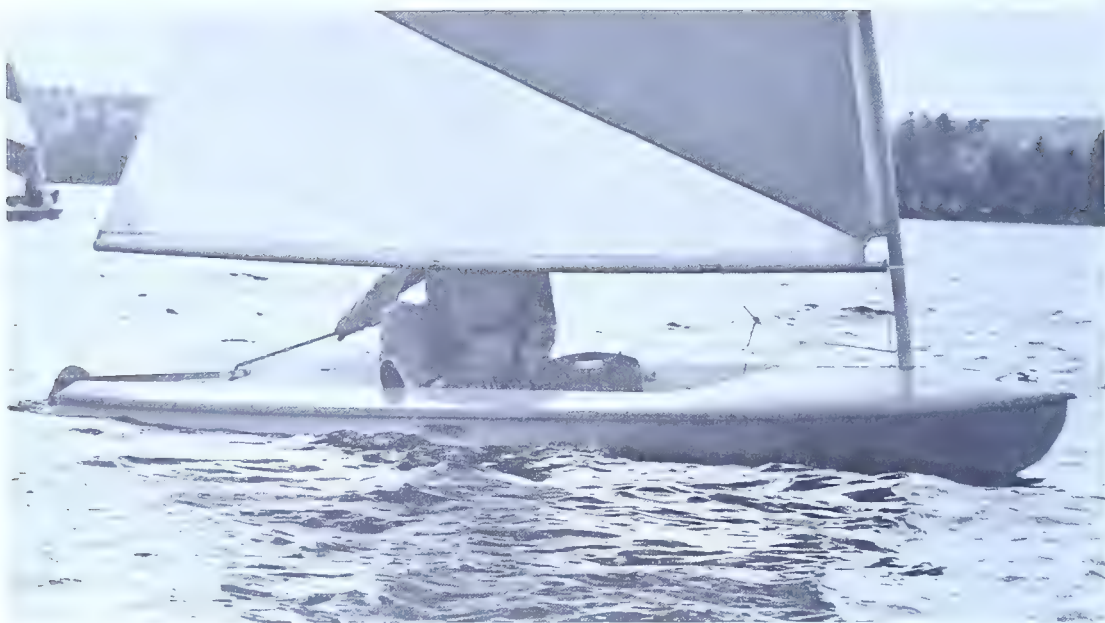
KIDS AND ANIMALS always make good photos, but you have to have your camera ready all the time to get the shots you'll treasure.

that great spontaneous quality that makes the candid shot so much more interesting than the posed one. Of course, these subjects knew they were being photographed. The difference was that they lost the initial shyness in a short time and started performing in their own personal way.

The camper-photographer will have to work a bit harder than anyone else on the trip if he wants his pictures to be better than ordinary. A good time to shoot candid shots, for example, is early morning. To get wake-up shots requires that you climb out of the sack before anyone else. You may be soundly read off by the females in the family for taking pictures before they've had a chance to perk up in the morning. They might even throw something at you—and that could make a great picture!

The ritual of preparing breakfast could also make an interesting series, or how about the master of the camp shaving in a small mirror while you're taking pictures head-on. The ordinary routines of camp life can seem rather dull while you're doing them but a year or so later they'll be fun to look





KNOWING WHEN TO TRIP THE shutter is highly important to good photos. Here's an example of when not to shoot!

at. One of the funniest sequences I've ever seen was captured on film by a friend who happened to walk by a fellow camper's layout while he was trying to start a fire on a rather damp morning. The fire lighter didn't think it was funny at the time, but several months later when he saw the pictures he was delighted. He wasn't aware that anyone was close by, so the pictures were all completely unposed. (He never did get the fire started, incidentally.)

Small children are excellent picture material on a camping trip. Their natural curiosity and lack of shyness about the camera give them a freedom of movement most adults lack. If a four-year-old finds a toad hopping around the campsite, grab your camera. You're bound to wind up with some prize winners if you have patience, stay close to your subject . . . and the toad doesn't get away.

With box cameras and other inexpensive models that have fixed apertures, you must make sure you don't aim the camera into intense shadow. You don't always have to have the sun at your back but you shouldn't be shooting directly into it either. *Hold*

the camera as still as possible and don't move a muscle or breathe until you hear the shutter release. Strange as it seems, most blurry pictures are the result of the camera operator moving, rather than the subject. Most fixed-lens cameras will capture reasonably fast movement with good clarity but they cannot compensate for the jumpy photographer.

What you see in the viewfinder is usually what you get in the finished picture. Be careful not to chop off heads or feet. When shooting action you'll be bound to make some mistakes and some pictures will have to be discarded. Don't feel badly about this. Remember the best photographers in the world throw away about 90 percent of the pictures they take.

For home viewing and album use you should be able to save 90 percent of your shots if you do three things: 1. Learn how to use your camera by reading the instructions that came with it or have someone who knows how show you exactly how to handle it. 2. Don't move when releasing the shutter. 3. Wait for the right time to press the shutter.

That last point is the hardest of all.

Knowing when to take the picture is what separates the photographers from people who simply have cameras. I cannot begin to tell you how to do this nor can anyone else. Almost everyone has some creative ability and taking pictures is one way of bringing it to the surface. Look for the unusual, the unexpected, the spontaneous happening. Be critical about your pictures. Try to learn from your mistakes by analyzing the failures.

If the photography virus starts to work its insidious poison, you'll find within a few camping trips that you are no longer satisfied with that outfit that cost under \$20. Your neighbor will show you *his* slides from the same part of the country that you visited last year. Oh, oh, now you're in trouble! You start reading advertisements telling of the virtues of this or that Japanese camera that can do everything except scratch your nose.

At prices starting at about \$100, cameras are available today that adjust automatically for light, advance the film after each shot and even focus automatically. They are just as easy to use as the old box camera was, with far less chance of making a mechanical mistake. If a better camera is within your budget, by all means get one. But don't buy until you've had the opportunity to look over the crop.

You'll find a lot of cameras at campgrounds and that's a good place to start your shopping. Ask everyone you see with a camera what kind it is and how he likes it. Camera buffs love to talk about their hobby and if they've been taking pictures for more than a year with one particular camera they usually know a lot about it. Listen to what they say before you innocently charge into your neighborhood camera shop. Do not, under any circumstances, buy a secondhand camera unless you have a qualified professional examine it thoroughly. There are excellent bargains in secondhand stores, but there are bad apples too. As with used cars, the only reason the owners

got rid of some was because they didn't work well. But others were traded in simply to get a newer model, also as with cars. Expert advice is needed to tell which is which.

The best bet for the semi-serious photographer is one of the newer single-lens reflex cameras with built-in light meter. These can be purchased for slightly over \$100 and will provide at least that much enjoyment. The advantages are many. You can use all types of film, black and white and color, and take up to 36 pictures before changing film becomes necessary. You don't have to carry a light meter and if the regular lens supplied with the camera is a 2.8 or faster you can take black and white pictures under almost any light conditions. You also have the advantage of attaching extra lenses that will make your basic camera even more versatile. But forget that for now. Unless you become really wrapped up in the sport of picture taking you can get along nicely with the standard 50mm lens. If you discover that taking pictures of birds or other wild creatures is your thing, you'll have to invest in some sort of telephoto lens. Once you advance to this point you'll probably know much more about photography than I do.

Color or Black and White

The users of the economy cameras that handle the quick-load packs don't have much choice in film types. It's either color or black and white and that's just about that. The slightly more sophisticated cameras open a Pandora's box of film speed and special purpose ammunition that can and probably will hopelessly confuse the beginner. Even among serious students of the photo game, much coffee is consumed at midnight jawing sessions about which film should be used and when. The real pros seldom argue about it, since they learned what the shotgun shooter learned years ago. If a certain combination works well for you, don't mess with it.

The Game Law Violator Is Stealing From You!

Each photographer will discover after a few rolls of experimentation what works for him. My advice is to start out with a relatively fast black and white film like Tri-X. With a lens that has a maximum opening of 2.8 or larger you can take pictures with this combination during very weak light conditions. A good color film to start out with would be Ektachrome-X. The colors are vivid and it's fast enough for most normal light photography. The word "fast" when referring to film means that the lens opening doesn't have to open quite so long or so wide to record the image. An oversimplification perhaps, but I have a strong feeling about making photography easy to understand.

Nothing is more frightening to the would-be photographer than to stand within earshot of a group of advanced photobugs and listen to them out-technify each other. By the time they are finished discussing the intricacies of f-stops, depth of field, ASA, graininess and heaven only knows what else, the amateur decides that the old Brownie is still good enough for him. And it may very well be. A good photographer will take better pictures with a simple camera than a poor photographer will with \$5,000 worth of fancy equipment.

The cameras offering the extra features simply allow the picture taker more options. Instead of having to shoot his shots at five feet or beyond, the camera with a focus ring allows moving in to about two feet (much closer with some lenses) and taking pictures that just wouldn't be possible with any other outfit.

Another possibility, one that deserves serious consideration from all

campers, is the Polaroid camera. Even if you have another camera for "creative" work the Polaroid is great fun. Everyone likes to see the picture within seconds after it's taken, especially the kids. Polaroids are available in every price category from about \$20 on up to over \$200. All are reasonably foolproof, and when the ads say a child can operate them they are telling the truth. Photos are surprisingly good and if coated properly will last a lifetime in a picture album.

Take Litter With You

The biggest disadvantage of the Polaroid camera is the large amount of material it creates which must be disposed of. With each picture there is a piece of paper and a card containing the developing solution (which is toxic to wildlife). There is also the film box and the plastic roller at the end of each film pack. Remember to pick up all this debris when you finish taking pictures at any location. If a trash can is not nearby carry the junk with you until you find one.

All photographers should be especially diligent about cleaning up in the outdoors. It's a sin to litter with anything . . . but for a photographer to toss an empty film box on the ground is the final insult. Millions of pictures have been ruined because of some bit of trash carelessly tossed to the ground. "And now in this next slide you'll see a view of Groman's Gorge . . . there . . . isn't that pretty?" "What's that shiny thing in the foreground, Frank—I thought you said this place was really back in the boondocks?" "Oh, that, I guess it's a beer can!" I'm sure you get the picture.

Take a camera with you this camping season. The few dollars you'll invest in film will pay many happy dividends in the years to come. The places visited, the friends you made, and of course the kids you raised, all become more important as time goes by. They can all be recalled at any time, if you've recorded them on film.

Winds of Change

By Keith C. Schuyler

Photos From the Author

ADVANCEMENTS in archery, both on the target line and in the hunting field, have confused the contemporary picture of the total sport. Modern technology is getting ahead of the law, in some instances, and some sour notes are being heard as archers in general attempt to get in tune with the times.

Certainly, no one has all the right answers. Any attempt to charge headlong into the current controversies entails considerable risks. However, this is exactly what will be done in the paragraphs that follow. In doing so, this writer takes personal responsibility for his opinions since they may not necessarily coincide with that of his friends, his editor, or more knowledgeable archers.

The confusion which exists today can best be summed up in advance simply as a case of growing pains in the most rapidly advancing sport of our day.

This year the National Archery Association once again will ask the Federation Internationale de Tir a l'Arc, the international organization, to drop bare bow from competition. This would seem to be an abandonment of the very fiber of archery which was conditioned in the field, refined in warfare, and advanced on the target line.

Probable Reasons for Action

Before pursuing this further, it is only fair to take a look at the reasons which are probably behind the NAA's action. It was admittedly target archery, the toe-to-line approach to the sport wherein X number of arrows are shot at targets simply for the pleasure of exhibiting one's



STABILIZERS—metal mounted on a bow—are modern innovations which decrease effect of tremor, slight movements, accurate to targets.

skill and shooting a score, that kept archery alive after its decline following the advent of guns. But it was not until big-game hunting became popular across the United States that archery was really revitalized.

Hunting itself led to the inception of field courses which more nearly simulated hunting than the standard target line. It was on such courses that many of our top target shooters



SHAFT SPIDER features a bobbin of fine thread which lays trail for hunter to follow. Thread should be retrieved, of course.

in the United States received their basic training.

As sights entered the picture, a considerable segment of the archery population turned to this refinement. But, because they still enjoyed shooting the field courses, influence of this group led to changes in field shooting. Distances were marked at the targets so that sight shooters could calibrate the number of yards. Because, as on the target line, the sight shooter must know the distance to be effective.

So-called instinctive shooters—those who continue to use the style of shooting which entails only the mind, muscles, and bare bow and arrow—rebelled. There was dissension in the ranks, but archery continued to grow.

Then someone discovered that much better bare-bow accuracy was possible by holding three fingers under the arrow to narrow the sighting gap. Sometimes called “gun-barreling,” the system permits the archer to aim almost straight down the shaft. Again instinctive shooters groaned. It is impossible for a *good* conventional archer to compete with a *good* three-fingers-under shooter. Some of the top gun barrelers began to beat some of the better target archers. Into the controversy came the question as to whether stabilizers should be permitted for other than sight shooters. Confusion.

Sight shooters sat above most of this controversy, except for dissension

in their own ranks as to the use of certain types of sights, arrow rests, string peeps, etc.

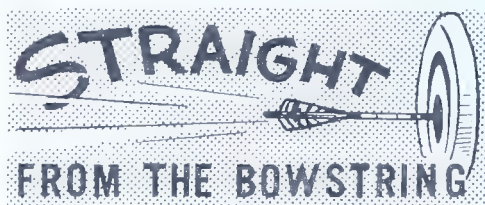
Now sight shooters have their own problems with the “hook” boys. A number of release aids, ancient in archery history but new to the contemporary shooting line, became popular. Today they dominate the scene and many sight shooters are screaming. The shoe has suddenly shifted to the other foot. In fact, the release aid, when combined with all the other sighting refinements, has thrown target archery into a mild uproar. Shooting has become so accurate that the Archery Lane Operators Association has exhausted its fund of prize money for those shooting perfect 300s on the indoor PAA Round. Two perfect *double* rounds were shot at Las Vegas this year; three at Detroit.

More Confusion

To further confuse the issue, there are problems in the deep woods where such things as the poison arrow, compound bow, and hunting sights have entered the picture. Other innovations such as the Shaft Spider are coming into focus, and all require a look as to their legality and efficiency.

To pinpoint the problems, certain observations are in order. We will take them one at a time.

One of the most controversial items of tackle has been the compound bow. Probably the first complete departure from conventional bows since the first laminated limbs took over from the straight stick, it has floated between complete acceptance and legalized oblivion. It has been accepted by the National Field Archery Association in competition, but it is not recognized for amateur target shooting in other



than the N.F.A.A. Professional archers have placed no official stigma on it. *It is illegal to use for hunting in Pennsylvania.*

Poison, or tranquilizer, arrows also have received a big play of publicity in recent months. *This type of arrow is outlawed in Pennsylvania.* We agree with this restriction. There is always the moral necessity to get as close to the game as possible to ensure a properly placed arrow. Use of poison certainly would tempt bow hunters to shoot at longer distances in the hope that any hit might bring down their quarry. Thereby, the likelihood of more unnecessary losses would be increased in addition to a considerable increase in the hazard to human life.

One innovation which gets a plus value in my thinking is the Shaft Spider, an invention of George Rohrbaugh, of State College. It consists of a bobbin containing some 3000 feet of an extremely light but tough filament. The principle behind this one is simply that, as the animal carries the arrow, it lays out a trail behind it marked by the gossamer filament. Although difficult to see, because it is necessarily quite fine, it is much easier to follow than the usual blood trail or the jump track.

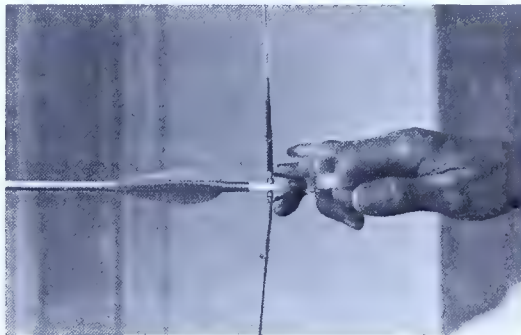
Principle Refined

When George first came out with the Shaft Spider, the tiny thread started to leave the arrow at the moment of release, as it was fastened to a plastic plug that jumped free because of its own inertia at the shot. This principle has been refined by the use of Velcro on both the bow and the arrow. When the arrow is released, the bit of Velcro, to which the thread is attached, catches on a companion piece on the bow.

Although originally designed to leave a trail if the arrow remained in the quarry, the Shaft Spider has worked out well even when full penetration was obtained. On two deer that I have shot using this device, the ar-

row passed completely through, which would appear to negate the use of the thread. Nevertheless, the deer laid its own trail for 100 yards by pulling the thread from the arrow lying on the ground, before it finally broke.

A side advantage of the thread is its use in locating arrows which miss.



THE HOOK—an example of a release aid that is resulting in fantastic target scores when combined with other hardware made for bows.

Since shooting is frequently done in heavy vegetation and leaf or snow cover, expensive arrows are often lost. With a Shaft Spider, the telltale thread leads to the arrow. Although not the complete answer, in the general desire to eliminate loss of arrow-shot deer, the Shaft Spider is a long step in the right direction, this writer feels.

Hunting sights, some of them quite effective, will produce results similar to that on the target line. Unfortunately, the ability to judge distance is still a drawback, although the sight should improve accuracy. Again, the only possible criticism entails the temptation by hunters to shoot at distances well beyond their ability to select the right sighting scale, or pin, for the shot.

There is no question that the three-fingers-under method of shooting has greatly improved accuracy. It has not proved much help to the average archer at the longer ranges, but it can be deadly at the shorter distances normally encountered in Pennsylvania deer hunting. It is an ideal way to shoot when on a stand where the time



GEORGE SLINGER demonstrates the correct bow hold using Collet technique in our Hunting photo. This bow is fitted for hunting in Pennsylvania.

necessary to make a very deliberate draw is more likely to be available. It can be a handicap where shooting is normally faster, as in group hunting.

The previous remarks deal primarily with hunting, but this is where the major interest in archery lies across the United States. Many of our top target shooters today started out in the field. A lot of them enjoy hunting as an adjunct to the target sport. This is why it grieves me that the N.A.A. would even consider eliminating the instinctive shooter from world competition.

Much of the controversy could be settled if archers in total would take a realistic look at the present picture. There are actually only two definitive types of shooting.

One entails all the sighting and mechanical assists that can be made available since the whole object is to improve pinpoint accuracy. It would appear that there should be few restrictions on target shooting per se. Those who are satisfied to stand on the line and continually drive arrows toward a stationary target at a known distance, in this writer's opinion, should not be denied any reasonable assist in doing so. Otherwise, it would require separate classes for those using optical sights, draw checks, mechanical sights, float levels, release aids, stabilizers, and various combinations of each or all of these.

Determination vs. Technology

But it is saddening to see records of past years being erased from the honor roll. They were set by those with the guts and the sheer determination to master the challenge of mind and muscle as compared to the technological trickery of modern archery. A look at top scores today holds little meaning unless you know whether they were made by men or machines. Scores that once took years of practice to attain by dedicated archers are now smashed by months-old tyros with good vision and a reasonable grasp of elementary mathematics.

There is a type of shooting inherited from ancient times which entails a bow bare of any sighting assists or release aids other than the minimum needed to prevent physical damage to the archer, such as bracers and finger tabs or gloves. This is, in itself, a sport that has been with us since a date that cannot even be ascertained. This is a sport that matches man against nature and himself. It requires that he pit his abilities against wild creatures while keeping his mental and physical faculties in proper coordination. It is a challenge that lifts one away from the mechanized and technological progress that makes life so convenient . . . and complicated.

There is nothing between the hunt-

ing sport and target shooting that makes much sense to *this* archer.

If we are to try to classify each new item of technological progress designed to improve target shooting, we will invite continued confusion and irritation which can destroy target archery. The very materials in even the construction of modern bows might require separate classifications. We might call it unfair to match an epoxy-impregnated riser, or one of metal, against one of all natural wood. There is no foreseeable limit to the confusion that we face unless we are willing to establish *absolute* maximums in tackle, or throw the thing wide open on the target line.

Although only the law should regulate maximums and minimums in hunting tackle, where necessary, competitive sport utilizing such tackle should be confined to equipment which most closely simulates the usual hunting approach. If a so-called instinctive class is to be continued in competition, there can be no room for gadgetry which would be unacceptable under actual field conditions. If the desire is only to hit the target (whatever sacrifice there might be to recognition of the basic bow and arrow, and mind and muscle power), then let the participant go to the hardware class to compete.

There will be new inventions. Fortunately. So it is proper now to set up rules which can accept and utilize the products of man's ingenuity in proper perspective. The hunting sport should accept few technological improve-

ments except in the basic bow and arrow. The sport is, or should be, open for improvements on the target line based upon *what archers want to retain of mind and muscle* in shooting.

Then the archer can make his choice of either or both target and field archery. But let's keep the rules definitive enough that each facet of the sport is distinguishable!

Guidelines From Gunners

Possibly one area in which to find some guidelines is in the gunning sports. Hunters don't use explosive bullets simply because they might provide a quicker kill. The attempt has been to retain as much sport as possible without accepting every technological improvement to reduce hunting to pure target shooting.

There is room in archery for *almost* anything that man can design to improve the basic bow and arrow. We must simply recognize that everything that comes along cannot be incorporated interchangeably into field shooting and the target line.

In hunting, we must look at every so-called improvement as it relates to the *practical* need for sportsmanship and humaneness. In competitive shooting, we must keep competition fair on the target line and in the field without forcing upon the individual any *improvement* which takes away the charm, the beauty, and the mental and muscular coordination which attracted him to the sport in the first place.

It is time to bandage the source of archery's growing pains in America.

Something Anyone Can Do

Millions of people are talking about conservation, but not many actually do anything about it.

The nation's hunters and fishermen provide nearly \$200 million to conservation each year through the purchase of hunting and fishing licenses.

Anyone who really wants to help conservation should buy a hunting or fishing license. You don't have to use it—just buy it.

If every person over 16 years of age bought a hunting or fishing license, it would mean more than half a billion dollars for conservation yearly.



DON LEWIS CHECKS OUT THE NEW Ithaca LSA 55 in 243 caliber. Scope is a Redfield 4x Widefield.

Chucks With a Regular Rifle?

By Don Lewis

Photos by Helen Lewis

I WAS JUST ready to submerge myself in a full tub of hot water when the phone rang. I was at home alone, so I had no choice but to answer it. I grabbed a towel and raced down the stairs. By the time I got to the phone, it had rung a half dozen times.

"I betcha I got you outta the tub," a booming voice greeted me. "I was about ready to give up, it took you so long to get to the phone."

I didn't want to admit that I was standing in our hallway with a towel not much larger than an over-sized washcloth. In my haste, I had failed to get a bath towel.

"Well, what's on your mind," I asked, ignoring his remarks.

"I want to buy a chuck rifle, and I'm going to tell you right from the start that I don't want one of those two-inch-thick barrel jobs with a mile-long scope that you claim is the only

type of rifle for chucks. I'm looking for something in the regular hunting type of rifle that I can use on varmints and still not be short-changed in deer season."

Our front door has glass panels around it, and I felt sure that the front porch was getting crowded with curious onlookers. I was feeling more conspicuous by the moment. I was also losing the battle with the towel.

"That's not too easy to answer. I don't have any catalogs in the house, and to just pull a brand name and caliber out of my head might not be satisfactory. I'll do a little research and you stop by sometime," I said evasively.

"That's no good. I'm calling from a hundred miles away. Don't worry about my phone bill, just come up with the right rifle for chucks and deer."

Either my hips were growing or the

towel was shrinking. I had the fingers and thumb of my left hand spread as far as possible, but I could feel the ends of the towel getting away from me. I knew in only a few seconds, I'd be standing there in the same outfit I was born with. I didn't want him to know my predicament, but I had more on my mind at the moment than choosing a chuck rifle.

"There's a lot of good rifles," I started to say.

"Wait a minute, Lewis. Let's be more specific. I know there are a lot of good rifles. I can see that in any catalog. What I want from you is the right rifle and scope that will fill the bill in any season."

This fellow was tenacious. He wasn't going to give up, and now he had broadened the field by including the right scope. I was fighting losing battles with both him and the towel—and I suddenly lost the one!

"Well, let's hear something from you," he nearly shouted. "You're testing and writing about rifles all the time. It shouldn't be any problem for you to answer a simple question."

He may have said much more. I didn't hang around to listen. Doubling my coming down time, I took the stairs three at a time. I never knew a pair of old pants could be such a wonderful sight.

I figured if he was still on the line when I got back and he really wanted an answer, I'd give it to him. I picked up the phone.

"Now, just what do you want me to tell you," I asked. "You claim you already know that the market is flooded with all types of rifles. There are a number of fine models available at any sports store that will fill your need. Be more specific; give me something to work with. What are you looking for in a rifle?"

I think my rather blunt tone made him realize he wasn't asking a simple question. His long pause before answering led me to believe that the truth had dawned on him—there was no pat answer.

"I guess I was asking something that can't be answered easily. I was hoping you could rattle off a model and caliber that would be a combination outfit."

"Let's set one thing straight. There are calibers that will pretty much meet the needs of the chuck hunter in



SAVAGE M110-C rifle features a button-released clip which allows fast and simple loading and unloading of hunting rifle. Chambered cartridge must be removed by working bolt.

the summer and the big game hunter in the winter, but one caliber, regardless which one it is, can't be all things to all hunters."

"I was under the impression the Remington 6mm and the Winchester 243 are supposed to be suitable for most types of game."

"Many hunters believe exactly as you do. However, in my opinion, those two calibers make better chuck outfits than big game getters. If you're interested in the combination caliber, I'd suggest you stay with one of those, the 240 Weatherby Magnum, or the 25-06. But I was under the impression you were more interested in getting information on the most suitable rifle than dope on different calibers."

"That's correct. I know I have only two or three calibers to choose from, but which brand should I buy and why?"

As far as I was concerned, we were right back where we'd started some time before. In the process of the conversation, he mentioned his address. It was a coincidence that in just

a few days I would be visiting near his home. We set up a meeting place and brought the phone conversation to an end. Experience has proved to me that there are many aspects to cover when choosing a rifle. If we had discussed them all, he'd have had an oversized phone bill.

A few days later, it took us over an hour of hard gun talk to come up with what he was looking for. He was really amazed at all the things that should be considered when buying a rifle.

Conventional Models

His insistence on a conventional type of rifle suggested to me that thousands of men and women might like to hunt chucks but do not want to invest in a heavy-barrel outfit. Therefore, in this column I'll do my best to cover a few of the conventional models that can be used. Since these will be hunting rifles, light in weight and without any special features, I'm not going to dwell much on accuracy. I'm not implying that many of these hunting type rifles won't shoot well, but it just isn't fair to compare them with rifles that are accuracy oriented. In a future column, I intend to do a similar article on rifles designed primarily for benchrest and varmint shooting.

It will be impossible to cover the entire spectrum of rifles that can be used as combination jobs, so I will limit my remarks to just three or four. These are not necessarily my particular favorites or ones that I feel are superior. Space just prohibits me from discussing all the brands and calibers.

I haven't mentioned the Ithaca LSA 55 model in past columns because I had no real association with this model until recently. This is a good time to give a little extra space to it.

My test model came in the Deluxe 243 model, and it's a nice looking and well balanced rifle. Made in Finland, it has a deep blue-black finish on the barrel and action, and a high-gloss,

hand-checkered walnut stock with palm swell.

As usual, I disassembled the rifle completely when it arrived. I do this for two purposes—first, to fully examine every part of the rifle, and secondly to clean it. When I began, I noticed the LSA 55 guard screws are installed in an unusual manner. Instead of all going up from the bottom of the action, the recoil lug screw goes up in the regular manner, but the front trigger guard screw goes in on an angle and seats in the trigger housing. The rear screw or tang screw comes down from the top and seats into the rear of the trigger guard.

When I pulled the barreled action out of the stock, my attention immediately fell on the recoil lug. It is the shortest recoil lug I ever saw. I wondered about this until I discovered that it fits inside of a metal shoe that is inserted in the stock. The more I examined it, the more I thought it was a good idea.

My next step was the trigger. As you know, I'm fussy about triggers. The LSA 55 has a single stage adjustable trigger that is simple to adjust. It came from the factory with an acceptable 3½-pound pull, and in screwing the adjusting screw in and out, no problems were encountered in raising or lowering the weight of pull.

I've advocated in past columns that clips or detachable magazines should be installed without detracting from a rifle's looks. The LSA 55 Ithaca has one. When I first examined the rifle, I failed to see that it had a removable magazine. Its detachable box magazine fits nearly flush with the floorplate. The magazine is made from heavy material that gives the feeling of strength. A release just forward of the trigger is pulled back to drop the magazine. I did have a few minor problems at first getting the magazine free. I think the manufacturer should have cut several small indentations to aid in getting a hold on the clip.

The manufacturer followed a grow-

ing custom by milling integral scope bases on the receiver and furnishing scope rings with the rifle. The rings are heavy and I was happy to see that thick-headed screws with deep slots had been used.

Based on what I've done with the LSA Ithaca so far, it certainly meets most of the needs for the shooter interested in having the so-called "all around" outfit.

Remington's Model 700 should not be overlooked. Two of its features include a superb adjustable trigger and a fine, easy working safety. The "fast lock" trigger setup on this rifle permits the shooter to have just about anything in the way of trigger adjustment. I suppose I have adjusted more M700 triggers than any other type, and the end result is just what the owner wants.

As with a number of other guns today, the 700's bolt face fully encompasses the cartridge case head for added safety, and it has double locking lugs. It's a strong, accurate outfit and I think I can wind up the 700 Remington by saying it's a rifle that's been proven the world over.

For those who want something in the economy line, Remington offers the Model 788. It, too, is a well balanced rifle, but it lacks the adjustable trigger.

Ruger M-77

The Ruger M-77 is one of the nicest carrying rifles I've used in years. Designed with a short-stroke bolt, the mechanism has been provided with a number of vents to minimize the effect of escaping gas if a cartridge case should rupture. The trigger is adjustable for weight of pull only, but I've never detected too much of the annoying creep or override that plagues so many triggers.

The M-77's safety is a shotgun type, conveniently placed in the middle of the tang. It's strong and positive. The only fault I find with this safety is the positive clicking sound when oper-



WEATHERBERRY MARK V, particularly in 243 caliber, is a favorite of Lewis for late woodsman and deer-hog hunting at long range.

ated. I've often thought this could spook a wary buck at a good long distance.

The 77 also has integral scope bases and scope rings come with the rifle. The dozen or so of these rifles that I fired gave better than average accuracy for a thin-barreled model.

The Savage 110 comes with either a right- or lefthand bolt. Savage emphasizes twin gas ports in the bolt and receiver, plus gas baffle lugs on the bolt and bolt end cap. This helps protect the shooter against possible leakage if a primer or case fails. The 110's trigger is fully adjustable for weight of pull, sear engagement, and overtravel. The safety is on the tang, and the barrel is free-floating.

I've had a good deal of experience with the 110 as it comes from the factory, and I used the 110's action for several conversions. I personally feel

it's a very strong rifle, and it allows the lefthanded shooter to own a bolt action rifle.

Weatherby's classic Mark V has to be included. It's no secret that I'm an admirer of the 240 Weatherby Magnum. I've never gone too far out on the limb for the magnum calibers, but the 240 Weatherby got to me somehow.

Weatherby has long been known as a manufacturer of deluxe rifles. A good many shooters think that's all a Weatherby is, and a good many gun writers are a little guilty of the same thing. Actually, the Weatherby product is more than just a classic example of beauty. A close look will reveal some very important features. Weatherby offers a very fine adjustable trigger, an exceptionally strong action with nine locking lugs on the bolt (even the scaled-down version in the Mark V Varmintmaster 224 has six locking lugs) and a short lift bolt. The stock is American walnut with a superb glossy finish.

Don't be lulled into believing that Weatherby offers little besides looks. I've fired a good many of them, and for hunting rifle accuracy they passed my requirements. Most of those I shot stayed under two inches at 100 yards. This might not impress the varmint hunter who is used to shooting a heavy barrel, but it's plenty good enough for all types of big game hunting and varmints up to 200 yards. I'm mentioning the accuracy of the Weatherby because it seems to be the

main point of complaint. I've heard many times that accuracy or tight groups are not to be expected. Frankly, extremely small groups are rare with any thin-barreled rifle. After four or five shots, especially from the Magnum calibers, a thin barrel heats up quite a bit and this sometimes changes the point of impact from shot to shot.

The important thing to remember about any lightweight, thin-barreled rifle is that it's designed for easy carrying over tough terrain. It's no big secret that the short, stiff barrels have better accuracy potential than a regular hunting barrel. On the other hand, big game accuracy is not nearly as critical as many hunters think.

I haven't covered all the models; that wasn't the object. I didn't make a big issue over accuracy, but I feel that most regular types of hunting rifles will do a good job even on small targets up to a couple of hundred yards. Also, I left the caliber choice up to the buyer.

As I see it, every rifle on the market today has some features that can't be found in a competitive make. The prospective buyer will never be quite sure unless he takes time to examine closely what each model has to offer. For some, it could be the Winchester 70, a Ruger, the Dumoulin, or a Sako. Some won't see anything but the Steyr-Mannlicher, the Ithaca, or a Remington. I've attempted to point out some of the features of various makes and models. The choice is yours. Choose carefully. . . .

Pennsylvania Trappers Harvest 2672 Beavers

Pennsylvania trappers harvested 2672 beavers during the February 6-March 7 season this year. This was somewhat lower than the 3317 taken last year. Reduced interest in trapping, mainly due to depressed prices paid for pelts, was noticeable in 1971, and in some areas smaller populations were evident. Beavers were taken in 44 counties this year. Wayne County was top producer, yielding 309 pelts. Crawford had 303, Erie 215, and Susquehanna 173.

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS *Executive Director*

ROBERT S. LICHTENBERGER *Deputy Executive Director*

EDWARD T. DURKIN *Comptroller*

Division of Administration

DANIEL H. FACKLER *Chief*

Division of Research

DALE E. SHEFFER *Chief*

Division of Land Management

HARVEY A. ROBERTS *Chief*

Division of Law Enforcement

JAMES A. BROWN *Chief*

Division of Minerals

JOHN B. SEDAM *Chief*

Division of Propagation

RALPH E. BRITT *Chief*

Division of Information and Education

ROY W. TREXLER *Chief*

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188

Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.

SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.

Phone: A.C. 412 238-9523 or 238-9524

Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641

Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.

SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.

Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.

Phone: A.C. 717 675-1143 or 675-1144

Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.

Phone: A.C. 215 926-6071

Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473. Phone: A.C. 215 287-8151

WESTERN GAME FARM—G. Russell Enlow, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212

LOYALSOCK GAME FARM—Jack N. Anderson, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500

STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223. Phone: A.C. 814 275-2515

STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

HOWARD NURSERY

SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brookway 15824. Phone: A.C. 814 265-0456

Beginning July 1, new prices of \$2.00 per year or \$5.00 for three years, become effective.

PENNSYLVANIA GAME COMMISSION
BOX 1567, HARRISBURG, PA. 17120

PENNSYLVANIA GAME COMMISSION
BOX 1567, HARRISBURG, PA. 17120

38134
1/2
10/2
10/7

PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION JUN 21 1971

PENNSYLVANIA GAME NEWS

JULY, 1971

25 CENTS



Published Monthly by the
PENNSYLVANIA GAME
COMMISSION
COMMONWEALTH OF
PENNSYLVANIA

Milton J. Shapp
Governor



COMMISSION MEMBERS

Edwin J. Brooks, President
Lansdale
Andrew C. Long, Vice-President
Shamokin
H. L. Buchanan, Secretary
Franklin
James A. Thompson
Pittsburgh
Loring H. Cramer
East Stroudsburg
Frederick M. Simpson
Huntingdon
Robert E. Fasnacht
Ephrata
Marshall E. Jetty
Brockway



Glenn L. Bowers
Executive Director



PENNSYLVANIA GAME NEWS

Robert S. Bell
Editor
R. Theodore Godshall
Associate Editor
John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
250 Ringnecks Ago	2
By Reverend George L. Harting	
Pennsylvania Woodchuck Memories	8
By Ritchie R. Moorhead	
Summer Wildflowers	12
By Ken Calnon	
Penn Wood Folk	15
By John Guilday	
Gun Leather	17
By Gene West	
Backpacking!	20
By Del. and Lois Kerr	
A Look at Ontelaunee	27
By Brooke Focht	
Common Mullein . . . a Genuine Pioneer	31
By Carsten Ahrens	

NEWS

Field Notes	34
Conservation News	39
By Ted Godshall	
Biennial Report 7/1/68 to 6/30/70	41
Hunter Safety Education	48
By John C. Behel	

COLUMNS

Set an Eco-Example (Camping)	49
By Les Rountree	
Conclusions on Campus (Archery)	53
By Keith C. Schuyler	
King of the Deer Rifle Cartridges (Guns)	59
By Don Lewis	

COVER PAINTING BY JIM LANDENBERGER

The Baltimore oriole—*Icterus galbula*—is one of the most striking birds commonly seen in our region. Somewhat smaller than a robin, the male is orange and black, the female and young olive colored above and yellowish below, with two wing bars. Occasional females resemble the males in coloration. Their song is a rich, piping series of whistled notes. Baltimore orioles are found from southern Canada south to Georgia, Louisiana and Texas. They winter in Central America.

Published MONTHLY by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$2.00 per year; \$5 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved. **NOTICE:** Subscriptions received and processed by the last day of each month will begin with the second month following.

Printed by Times and News Publishing Co., Gettysburg, Pa.
Second Class Postage Paid at Gettysburg, Pa. 17325

N.R.A. Centennial

THIS YEAR, 1971, commemorates the 100th anniversary of the National Rifle Association of America. I know of no other organization based on the legitimate ownership and use of firearms which has a longer or more honorable history. The National Rifle Association was founded to promote marksmanship on the part of our citizens—many of whom, at the time of its founding, could look back with pride to ancestors whose proficiency with rifles was instrumental in the founding of these United States of America. That is why I feel it appropriate to present these words in July, the month in which our Independence Day also is celebrated.

Through 10 decades the N.R.A. has encouraged marksmanship at all levels, from the beginning efforts of the youngest sportsmen through the record-breaking accomplishments of veterans competing in national, international and world championship matches. But it has not limited its efforts to this one field. As the problems of today's society became apparent in related areas, it broadened its goals to embrace conservation and national improvement. It has also, for many years, presented reliable information through its magazines—"The Rifle," first published in May, 1885, followed by "Shooting and Fishing," July, 1888, "Arms and the Man," December, 1906, and "The American Rifleman," June, 1923.

"The Rifleman" has always been the publication by which all other gun magazines were judged. Essentially conservative in approach, with a highly professional staff that has facilities for testing new firearms and associated items, it has done much to lift shooters' interests from "me and Joe" hunting stories to the more technical levels. "The Rifleman" goes to all N.R.A. members, and its influence can be estimated when it is noted that in 1945, when I joined, membership totaled 84,000, and now it is well over 1,000,000.

In recent years, much of the N.R.A.'s time and effort have been directed toward maintaining the right of Americans to own firearms and use them in a legitimate manner, be that hunting, target shooting, collecting, plinking, for self-defense, or whatever. Had it not been for the N.R.A., I believe our rights to such ownership would have, for all practical purposes, vanished by now. These rights are still threatened and the National Rifle Association, made up of a million-plus persons who believe that non-criminals should be able to own and use guns, is still our main line of defense. I sincerely hope that 100 years from now this organization is larger and stronger than ever, for its faith is in the common man, and thus in our country, and that's more than can be said for those who would destroy it.—*Bob Bell*



250 Ringnecks Ago

By Rev. George L. Harting

“WHAT’S COOKING?” would have been a normal question at the moment, but for this sixth grade farm lad, inventorying the game that Frank bagged held priority over the supper menu. The place was Lancaster County; the date, November, 1927; and Frank was the trusted farmhand—the only person Dad allowed to mix cottontails, corn husking and the old “Rust Bore” 12-gauge.

“Greased lightning” might describe my speed as I raced to the old wash house after learning that a ringneck had been bagged that day. The game basket, however, was empty, the bird, destined to be the chief ingredient, already had been plucked and drawn for a pot pie.

My reaction was depressed rebellion. That was my first encounter with the ringneck—a near miss. I was born with a gun in my hand and the love of the outdoors in my heart, and the dressing of that bird before I had seen it was, to my mind, the loss of a major opportunity. It was six years before the disappointment was reversed. This occurred when a half-grown ringneck staged a deep freeze in a harvested corn row. The crouch was perfect but the camouflage wasn’t, so I bagged my first pheasant. That was 250 ringnecks ago.

During childhood I was designated as hopeless. Devouring outdoor literature and sitting at the feet of the old-timers were my favorite pastimes. Vivid memories linger of the barn pigeons “shot” with a “Bang! Bang!” from my wooden scatterguns, and waterfowl that fell to my air gun. In reality, these were English sparrows feeding in the raspberry brush. Numerous items of my sporting gear date to grade school days. It is, therefore, not by accident that a carefully edited scrapbook became an early

discipline; it carries many secrets and narrates exciting campaigns with trusted companions. As the 1970 edition came to a close, it carried a note written in bold type indicating that my goal of 250 ring-necked pheasants taken legally in open state hunting had been reached.

The urge is to reminisce, and looking back over 38 hunting seasons discloses some interesting trends in pheasant management. Those years produce a tale of trial and error in hunting techniques and they punctuate numerous changes in the relationship of the hunter to his game. Some of this becomes nostalgic material for the senior sportsman who recites it.

Two Recent Articles

Two recently published articles capsule the efforts relating to the propagation of the ringneck in Pennsylvania. Charles H. Nehf, sportswriter for the Allentown *Call Chronicle*, titled an article dated November 8, 1970, as follows: “50 Years Have Passed Since Pheasant Was Introduced to Lehigh Valley.” He traces the first efforts to just after World War I and credits such private benefactors as General Harry C. Trexler and Colonel James Fuller. The birds these men reared in captivity were released on their farms and gradually spilled over onto adjoining lands. Nehf explains that through such private efforts, thousands of birds were pen-raised and released in the early 1920s.

A GAME NEWS article (July, 1970, p. 47) highlighting the propagation efforts explains that the first large-scale stocking of ring-necked pheasants occurred in 1915, when 1000 were released in various places in the southern and central counties. At that time, Game Commission personnel were of the opinion that ring-necked

pheasants would starve during periods of deep snow unless they were artificially fed and cared for and probably would not increase in the wild state. This early opinion, compared to the facts subsequently learned, presents quite a contrast. Fred E. Hartman, Pennsylvania Game Commission biologist, in the May, 1966, *GAME NEWS* points out that winter malnutrition is not a problem peculiar to the resident pheasant. He may be quoted as follows: "Examinations during the last five winters of birds found dead in the wild and killed on highways failed to reveal a single instance of early advanced stages of malnutrition. During winters of normal snowfall pheasants are equipped to take care of themselves and are usually able to obtain adequate food supplies."

The sportsman who grew up with the pheasant can reflect upon necessary efforts of trial and error to find the most profitable methods in propagation techniques. Gleanings from the *GAME NEWS* which had its beginning in 1929 indicate that stocking

efforts ranged from the Day-old Chick Program through the release of mature birds—sometimes in the spring of the year as breeders and at other times in the fall as shooting stock.

GAME NEWS reports through the past 35 years also disclose a continuous effort to find or to develop a strain of birds most suitable for the Keystone State. Records from 1915-1916 indicate that two strains, the English and Chinese varieties, were being introduced.

A note in the November, 1935, *GAME NEWS* carries these observations: "Of genuine importance to sportsmen is the increased introduction of the pure Mongolian pheasant into breeding stock at the State Farms. Also the effort being made, by careful and selective mating, to produce a shorter legged bird and one having less tendency to run. The pure Mongolian is much this type of bird, possessing in addition the ability to endure and actually thrive under extreme climatic changes and in almost any kind of cover."

"Cussing and Discussing"

These observations are routine historical facts today, but the gunners who spent many hours sitting around pot-belly stoves at their clubhouses will recall them as reasons for "cussing and discussing" the Commission, while the personnel assigned to pheasant management sweated it out, hoping for good results from their conscientious efforts.

Many writers assume that the primary range of the Pennsylvania pheasant is shrinking each year. It may appear so, for one authority has estimated that since 1939 3.8 million acres of farmland in the state have been diverted to uses usually detrimental to wildlife. Seldom, however, do we recognize that the spread of pheasants to what previously were marginal areas has more than made up for the loss. One dare take a positive stance, also, and clarify the fact that the remaining range today carries



IT TOOK SIX years to reverse that early disappointment. A ringneck did a deep freeze in a corn row—and I bagged my first pheasant.

many more birds than it ever did.

In the early 1940s, Columbia residents spoke of the continuous stream of cars that moved across the Susquehanna River toward Lancaster County for the opening day of the small game season. The attraction was, of course, the good supply of ringnecks in Lancaster County. Now on opening day many gunners go the other direction, to find even better pheasant shooting in York and Adams counties.

A Ritual

After high school years, I usually took vacation the first two days of the small game season. The ritual then was to bag two birds in the corn-tobacco area of Lancaster County by noon and then hunt rabbits in the foothills of the Blue Mountains. In the early '40s, one seldom bagged a pheasant in this mountain area. This past season I had a conversation with my host in these foothills about the many happy years of hunting I enjoyed on his land. He posed a vital question: "Are there more pheasants now?" I answered in the affirmative. He responded by saying, "I thought so." This past season my companion and I encountered in this area 14 ringnecks in a single day at the end of the first gunning week.

In my early hunting years, it was routine to bag a daily limit of rabbits on the first and second days of the season. Today I actually find more pheasants than cottontails. I have often flushed birds while hunting other species after my limit of ringnecks was bagged. Several years ago the number was 25 and this season it rose to 32. I quote a Lehigh County farmer who explained: "We walked to the end of the corn rows, 50 birds flew out—and we had only two shells!" These observations I found constant while hunting the Pennsylvania pheasant range from Mifflin County in the central area through Snyder County to Pike in the northeast, including, also, all of the primary ringneck range

down through Adams County.

When the ringneck emerged as a major game species, sportsmen began to adapt their gear to the requirements of this big contender. His physique was rated equal to that of waterfowl's; he definitely was tougher to stop than a grouse or cottontail. "I use the heaviest load I can get," declared many, and one hunter, contemplating a new gun for his teen-aged son, stated, "I want to get him ready for the big shooting." To him this meant an eight-pound 12-gauge scattergun with 30-inch barrels.

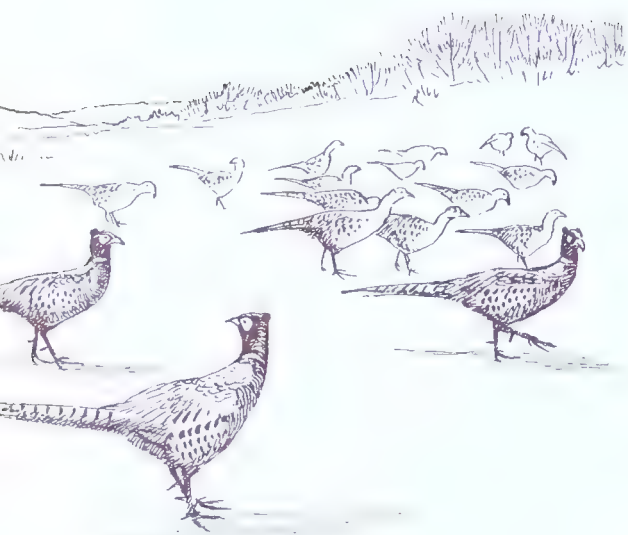
Some very interesting load specifications prevailed. Many doubles were used 35 years ago and a favorite technique was to use a field load in the right barrel and a maximum load in the left. Some shooters carrying repeaters struggled with the complicated schedule of a brush load in the chamber, a 3-dram load next, followed by a maximum shell using No. 5 shot. So set up, these mighty hunters felt ready to handle any eventuality.

Observing that much pheasant shooting is around the 35-yard mark, and that, though rugged, this bird is not truly indestructible, some sportsmen turned to the easier-carrying 16-gauge gun and a few—who were regarded as foolhardy—embraced the 20-gauge. I've been among the foolhardy for the last 27 years. As a result, I've noted that the 20-gauge with maximum loads has proved itself equal to the ringneck.

A Double for 200?

Some years ago, I opened a season successfully by taking two ringnecks the first day. It was, however, the second day that held high interest. To bag a day's limit then was to round out a lifetime take of 200 cocks.

I staked my chances on a brushy creek bottom bordered by a field of standing corn. Tramping the area just outside the corn rows, I was approaching the western boundary when I encountered an opportunity unique in my lifetime—my first chance at a



double. The 20-gauge pump swung smoothly ahead of the first bird and I dropped him motionless into the creek. The swing to the second bird was instinctive and in good time. Because of wear, however, my 20-year-old smoothbore failed to eject the empty and I was obliged to listen to the derisive cackle of the rapidly departing bird as he voiced his opinion of my ambitious intentions.

The trend toward smaller bore guns for upland game can be seen in the decrease in numbers of the 16-gauge and the increase in the 20 in numerous models and trade names. The appearance of the 3" Magnum shell with 1¼ oz. of shot has been an important factor in the 20's rise. I surprised myself at the capacity of the 20-gauge by dropping the first eight birds with as many shells during the 1970 season.

Thirty-eight consecutive years of gunning disclose a number of changes in Pennsylvania agriculture and game habitat, and as they relate to ringneck management, they have been of bene-

fit. Modern agricultural methods have spared game. It was not until after World War II that Pennsylvania farming became extensively mechanized. Corn used to be shocked; this left fields clean and shocks were kicked to move game. A "shock dog" was a valued asset in those days. Today, some corn is left to stand throughout November and occasionally over the winter. This practice produces an asylum for ringnecks. In respect for growers, these fields should not be invaded—often they are posted to prohibit trespassing. Mechanical harvesters also scatter considerable grain that feeds the pheasant flock well throughout the winter. The result is that a greater percentage of the available flock of birds escapes the gun throughout most of the season and often avoids the gunner entirely.

A Rarity 35 Years Ago

Thirty-five years ago it was a rarity to find a ringneck by Thanksgiving Day. Now, Safety Zones, unharvested grain fields, posted ground, municipal lands, etc., all contribute toward the asylum of the ringneck. It used to be that one could pack a sandwich, hunt down a valley until noon, then retrace one's steps up the opposite valley until evening. This privilege is no longer available. Posted land has relegated hunting rather extensively to an "invited guest" relationship. While it has halted much so-called open hunting, it has also preserved many more ringnecks for late season gunning. A grower is more apt to allow hunting after he has done some shooting himself and the crops are harvested. Furthermore, birds will eventually roam from the sanctuaries and be available on open shooting grounds. Thus the restricted areas of today preserve game for late season hunting and for spring breeding stock.

The pheasant hunter in Pennsylvania has not experienced a great deal of fluctuation in season and bag limits. In 1935, limits of 2 birds a day and 10 for the season were allowed. In

1936 and 1937, they were reduced to 2 and 8. The next year they were advanced again to 2 and 10, and from 1939 through 1944 they were advanced to 2 and 12 birds. This reminds me of a morning hunt in 1939 through the Cornwall Mountain foothills. If ring-necks inhabited that area that day they surely evaded our party of three. In desperation we agreed to scour the brushy deserted farm on a rolling hillside above town. It paid off—at least for me! That once I was privileged to bag legally a ninth bird, an opportunity not offered Pennsylvania hunters since 1944.

The merits and demerits of this bird have been discussed long and loudly. He is a slow and sluggish flier, some say, and they may be right. Though strong in flight, his survival does not lie here—the grouse, the teal and others surpass him in some aspects of flight and takeoff. But to compensate for the deficiencies, he is a master at the “deep freeze and cross-country.” And he is cunning enough to subject the gunner to a lifelong process of learning to outwit him. How many years does one hunt marginal wooded gullies, for example, till he learns to hunt from the ridges to the fields rather than in reverse if shooting is to be enjoyed. Regardless of what the laboratory experts may have to say about the bird, he does pass the test in the field.

An adult ringneck possesses cunning that almost convinces one to trade the over-under for golf clubs. On the other hand, the nesting habits are frequently so foolhardy that successful hatches are impossible. Why, when deep brushland is available, will the lady bird insist on nesting in a cemetery lawn, or beside a power pole three feet from a primary road? Or why share a nest with a mallard? Yet with all this folly, successful hatches seem to be on the increase.

Keystone State farmland hunters who began their careers 50 years ago were excited by the cottontail come November. This game species has definitely given way in the popularity contest to the ringneck. During the tularemia scare of 30 years ago, many hunters turned purist, refusing even to touch a cottontail. The result was that the pheasant took the rap of increased hunting pressure. But in spite of it, the ringneck just keeps coming back.

Whatever else is to be said, the ringneck as we know him has earned for himself a sense of belonging. Each bird I bagged in nearly four decades of hunting has been regarded as a happening. Hopefully, there will be more seasons yet to enjoy, and each anticipated encounter with this tricky, rugged, noisy iridescent beauty remains as exciting as it was 250 ring-necks ago.

Game Commission May Accept Gifts

Conservation-minded groups and individuals sometimes contribute to the future of hunting in Pennsylvania by making donations to the Game Fund or providing gifts to the Game Commission. The Commission has been given a number of tracts of land suitable for public hunting, ranging in size from small river islands up to rather extensive holdings. Also given to the Commission in the past were large, valuable mineral rights. The Commission also has the right to accept donations from any person, firm, corporation or association; these are placed in the Game Fund and used to purchase public hunting lands or for other phases of Pennsylvania's wildlife management program.



Pennsylvania Woodchuck Memories

By Ritchie R. Moorhead

JERRY FULMER retrieves medium-size chuck taken near Bloomsburg last summer with 222 Sako, 10x Lyman All-American scope.

A TRAVELER who returns home from a new state or region often overflows with memories of things seen and impressions formed by exposure to the new land. I would like to share some reactions about Pennsylvania as a result of a trip out of state.

During the last week of July, I embarked on a journey with Bob Bitner of Enola, Pa. Bob is the owner-operator of a moving van and as a result of a conversation at a rifle match I found myself hired on as a mover for a week. My job as a teacher gave me the free time to make this trip.

On the specified day I climbed into the big Diamond-T, put my camera and jug of iced tea behind the seat for quick access, and settled down for the trip. Our destination was Oklahoma and possibly California. Talk soon turned to hunting, as it always does when two outdoor enthusiasts

get together. The Pennsylvania Turnpike and daylight were slowly slipping by. The ever-present pikeside woodchuck forced us into a discussion of hunting this popular varmint. We speculated on their number along the toll road and had visions of being able to tap this supply of summer hunting. But except for vehicles, these critters were safe and certain to pass into old age. Night fell and the darkness shut out the scenery, but our thoughts were still on the woodchuck. We knew the species would gradually disappear from sight as we moved West.

Two people can talk only so long, and during one lull my thoughts drifted back to the day when I began my hunt for the woodchuck. In 1956, at the late age of 16, I finally convinced my dad that I should get in on the pleasure of this type of hunting. Equipped with a J. C. Higgins 22-cal. rifle and 4X scope, we found a clover

field south of our home in Nescopeck. It looked good and we settled down to our wait. Soon a brown form appeared about 75 yards away. Through my little scope this spot looked as big as a bear. It did not take on any particular form and I did not know whether to shoot or not. Dad and I figured it would be best to positively identify it first. After an eternity it still was only a brown spot and I was ready to jump out of my skin. Just as I had myself convinced that it was a woodchuck it finally betrayed its identity by tipping its white tail as it hopped away.

Most Challenging Hobby

Today that first encounter serves me well as an example of proper game identification when I conduct hunter safety courses. Had I fired when I spotted the little brown lump, my woodchuck hunting might have taken an abrupt and unpleasant turn. That first trip produced one shot at a small groundhog and I was even more convinced that I had to hunt this animal as often as possible. A most challenging hobby was started on that June day 15 years ago. Now, back on the truck, I noticed we were pulling into a roadside rest for the night. The fog was thicker than woodchuck fur.

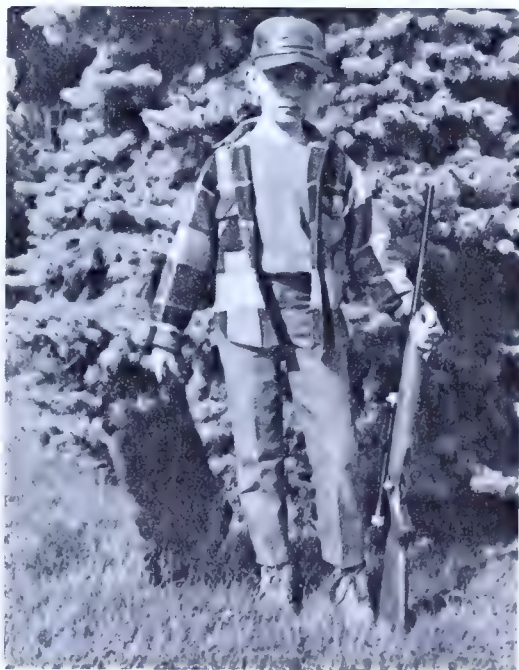
After spending the night near Wheeling, W. Va., morning found us crossing southern Ohio. My first observation was that our friend *Marmota monax* was becoming scarce. Bob informed me that our Eastern species gradually disappears as we move West. I felt a touch of sadness and made a note to appreciate this animal a lot more upon our return.

As we rolled across southern Ohio with its flat land and neat communities, our conversation ran from trucking to hunting with few other topics thrown in.

Bob has hunted extensively throughout North America, yet he still expresses a longing to do more groundhog hunting. As members of the Original Pennsylvania 1000-Yard

Benchrest Club, Inc., we like to shoot at long range. Bob has done a lot more of this than I have, so he took the floor, or rather the cab, and related some tales of 300-yard-plus woodchuck hunting in Potter County. Aided by a portable benchrest, a rangefinder and a fellow shooter manning a spotting scope, some very long shots were made. Experience and records of elevation and windage settings on the target scope make this type of shooting somewhat easier than it appears, but it is no job for the inexperienced or under-equipped. On the day in question, using two rifles and alternating shooters, Bob recalled that they ran out of ammo before they ran out of woodchucks. On a Potter County hill with a 500-to-1000-yard view in three or four directions, that could be a lot of shooting. Often the biggest decision was which one to try for.

Ohio turned into Indiana, and no whistle pigs were seen. The scenery was pleasant but somehow it was not



MICHAEL RETZER, of Ford City, got this black woodchuck while hunting with his father in Warren County. Melanistic woodchucks such as this one are uncommon in Pennsylvania.



LEWIS ANTHONY, R. D. 2, Palmerton, spends much of his spare time hunting woodchucks in Carbon and Monroe counties. He averaged 293 chucks per summer over an eight-year period, which doubtless makes him one of our most efficient chuck shooters. His rifle is a M43 Winchester 22 Hornet with Weaver V7 scope.

home. I reflected back on my college days in Lancaster County. As a student at Millersville State College my woodchuck rifle was still the rimfire 22 mentioned earlier. It accounted for many woodchucks during my four years on campus. I also acquired a Ruger Single Six 22-cal. revolver which accounted for a few in the hills outside of Millersville. Fortunately, good hiking and hunting were only a short walk from the dormitory and a lot of relaxing was done in the quiet rural areas of the county. My enthusiasm for woodchuck hunting was growing.

During that time I found out that woodchucks—particularly small ones—were good to eat. Properly cleaned and cooked they provided a respite from cafeteria fare. To this day I

prepare and eat them on occasion. It is easy eating, in my opinion, and I suspect that if the neighborhood grocer said "Go eat woodchuck," I could last out the warm months in good shape. Far too many hunters overlook a golden opportunity by not having a woodchuck feast on occasion.

Savage 22 Hornet

While in college I bought a Savage bolt action rifle in 22 Hornet. This outfit gave me a greater effective range and more killing power than the 22 long rifle. Although not in the category of a 22-250 or 6mm, it gave me a new lease on life, as I could now make clean kills at 150 yards or so.

Leaving the farmland of Indiana and Illinois behind us, we entered Missouri. One cannot help but feel that Pennsylvania and Missouri have a lot in common, with rolling hills and many trees providing a variety of scenes for the tourist. We followed Route 66 and it was indeed pleasant to travel and stop along this historic road, but my idea of relaxation was more often away from the highways in some pasture or clover field.

A lasting memory, revived by the Missouri hills, brought back what was possibly my start on long-range shooting. It happened in York County, in 1963. I was hunting in the river hills on a balmy clear spring evening. Action had been slow when I spotted a chuck on a distant hillside which later was ranged at 900 yards. I clicked my target scope up an amount that I felt to be adequate and fired. The bullet's impact was far low, and I gave another turn on the elevation knob. More dirt flew in the plowed field, but closer. The third shot was some four feet low, and the fourth got him as he watched in my direction. This was pure luck on my part, but it started thoughts that led to carefully recorded information on long-range shooting which makes this type of shot a reasonable possibility when conditions are right. If I must

blame anything for my interest in long-range shooting, it must be the woodchuck. I owe him a lot—something I won't forget.

From Missouri we slipped into Oklahoma with its picturesque countryside. The rolling plains provide cover for a variety of animals including the coyote, but the groundhog is conspicuous by his absence. As we passed through a shower my mind wandered to a pasture in southern York county. I had obtained permission to visit a spot that had been unhunted for four years. There were many chucks in this area and the landowner wanted them thinned out. I invited Jon Smeigh of York to join me. Jon also shoots in the 1000 yard matches, but on this day we would be shooting only 100 to 125 yards. In less than two hours we shot 14 from the creek bank that formed part of the pasture. One old chuck was in poor shape due to a malocclusion of one tooth. This tooth curved inward and pressed into the roof of her mouth.

Back on the truck we had unloaded our cargo at Stillwater, Oklahoma, and after a meal of steak and hash

browns Bob called headquarters for further directions. We were to return to St. Louis and pick up two loads of furniture for the trip home. The trip back was much the same in the scenery department, except that we chose a more northern route through Illinois, Indiana and Ohio.

Somewhere along the Ohio Turnpike we finally spotted a woodchuck happily eating grass. We knew that home was drawing near. While waiting for dinner in a busy restaurant, we discussed the approach of home and planned for some woodchuck hunts. Sometime later we entered Pennsylvania. Bob claims that he can smell Pennsylvania after he has been away from it for some time. I had to agree on that day, as the trees along Interstate 80 were giving off a "welcome home" aroma. Looking back on this trip I saw that my enjoyment of and appreciation for the woodchuck were greatly emphasized by not seeing him for some time, and I realized that, for me, much of my outdoor happiness revolved around that little "big game" animal in the back pastures of Pennsylvania.

Book Review . . .

A Manual of Wildlife Conservation

The book is a collection of short articles by professional wildlifers, each writing on his specialty. The form makes for easy reading by segments. The text reviews the areas of wildlife conservation: people and wildlife, wildlife management, fisheries management, laws, private lands and research. Each presents a vital part of the wildlife conservation picture. The material on places to hunt and fish shows that this picture isn't as bleak as many often lament, for the authors point out that 95 percent of the private undeveloped lands in the East and Northeast are still open to the public at no charge. Principles of wildlife management are explained in relation to ecology, hunting, refuges, predator control, artificial stocking, carrying capacity, habitat improvement, interspersions and animal territories, and an article on the quality of wildlife points out a philosophical approach to hunting and the changing concept of quality rather than quantity. An excellent reference for anyone actively engaged in wildlife activities. (*A Manual of Wildlife Conservation*, ed. by Richard Teague, published by the Wildlife Society, Suite S-176, 3900 Wisconsin Avenue, N.W., Washington, D. C. 20016, 1971. 205 pp. \$5.50.)

Summer Wildflowers

By Ken Calnon

SUMMERTIME! This is an exciting time for most folks—a time for family vacations, a time for kids to be free from their classroom studies, and a time for getting outdoors to observe nature.

Summertime is the ideal season to study wildflowers in all their fullness. Forests, fields and meadows contain wildflowers in great quantities, varieties and sizes. The seven-foot swamp rose-mallow is one of our wildflower giants; in contrast to this, Indian pipes are one of our smaller species. However, between these extremities lies a small fraction of the wonderful world of plant life known as summer wildflowers.

Through this article I hope to make your walk in the forests or meadows a little more pleasant and enjoyable. If you plan to pursue the field of botany, if only as a hobby, I highly recommend a good field guide on wildflower identification to get you started, then more technical books will be of further assistance to you. Now I would like to focus your attention on these eight species of summer wildflowers.

Swamp Rose-Mallow

This plant is of large proportions, five to seven feet in height, with flowers four to six inches in diameter. Swamp rose-mallow is a member of the hibiscus family, and it is similar to the cultivated varieties. It has the characteristic long style tipped with five rounded stigmas. The petals are large, fan-shaped, five in number, and have slightly ruffled margins. Despite the flower's size, it is quite fragile. The leaves are lanceolate (lance-shaped) with toothed margins and sharply pointed tips. (*See below*)



White Milkweed

This tall, slender plant is a member of the milkweed family. All milkweeds have a sticky milky-white liquid in all parts of the plant, which is released when the plant is broken.

Milkweeds have distinctive flowers with five petals bent sharply back, unveiling five incurved horns. Tinged with pink or green, the flowers hang downward in drooping clusters. The leaves are sharply pointed and have smooth margins with short petioles. White milkweed is right at home growing along roadsides. (*Above*)

Scarlet Bergamont

If you are fond of bright colors, scarlet bergamont is the perfect flower for you. Its color is, as its name states, a blazing scarlet. Consisting of many tubular flowers and also red sepals, this "ragged pompom" is an outstanding wildflower. (*See at right*)

Beebalm, horsemint and Oswego tea are a few of the common names attached to this stand-out member of the mint family. All members of the mint family have square stems, but not all square-stemmed plants are mints. Some mint plants, such as scarlet bergamont and a few others, emit strong minty odors when their leaves and/or stems are crushed. Tea can be made from the leaves and stems of bergamont, spearmint and peppermint.

Ovate and toothed, scarlet bergamont leaves are attached opposite, each pair of leaves being at right angles to the next pair. Scarlet bergamont grows in huge stands along streams, moist roadsides and the like.

Japanese Honeysuckle

In early summer the air is filled with the pleasing fragrance of this flower. Individual flowers vary in color from white to yellow and have gracefully curved upper and lower petals. Long stamens, also curved, give this flower a striking appearance.

Japanese honeysuckle is a creeping vine, rather difficult to eradicate once it has secured a firm foothold. However, in the right places, it is not a nuisance because it is of great value to wildlife that seek cover beneath its densely tangled vines. The plant is evergreen, and during severe winters cottontail rabbits and mice feed upon it. (*See below*)



Fly Poison

Around the 4th of July, certain mountainous areas are literally filled with the blossoms of this wildflower. When the flowers grow in great numbers, as they do in Hickory Run State Park, for instance, they look like hundreds of white-hot pokers standing upright in the forest. (*See below*)

The flower spike is densely packed with small white flowers and buds, and on large specimens it forms a perfect cylindrical arrangement. When in seed stage, the flower spike changes from white to green. Fly poison's leaves are long, quite slender and V-shaped. It is said that fly poison received its name from mixing juices from the plant with water, forming a solution that is supposed to kill flies.





Larger Blue Flag

The June meadows are at their loveliest when the wild blue flags are blooming. Their delicate shades vary from light lavender to deep violet. The petals hang downward in graceful iris fashion; at the mid-point of the petal, bold veins of dark violet mingle with white and yellow, giving a pleasing blend of colors.

Wild blue flags are very similar to the domestic iris, but they are not one and the same. Both species have long, flat, swordlike leaves. Larger blue flags like moisture and are found growing in wet meadows and marshes in large numbers. (*See above*)



Closed Gentian

Another of nature's "different" wild-flowers is the closed gentian. The petals of deep blue remain "closed" rather than opening as typical wild-flowers do. The largest cluster of three to seven individual flowers is terminal; directly beneath the terminal flower-cluster, a whorl of pointed leaves is attached. Several smaller groups of flowers, one to three in number, branch out from the axils of the lower leaves. The plant is one to two feet in height and has a slim stem. Closed gentian favors semi-open areas as its habitat. (*See below*)



Indian Pipes

These plants are bizarre members of the forest, growing alone or in a tight cluster. Indian pipes are parasitic, receiving their nutrients from dead or decaying matter in the soil. They lack the green pigment known as chlorophyll.

The single flower of the Indian pipe hangs downward and has a wax-like outer covering. After the flower is fertilized it then stands in an upright position. Indian pipes received their name from their pipe-like appearance. Other names for the plant are ghost-flower and corpse-plant. When the plant is handled it has a tendency to turn black and decompose. Indians used this plant as an eye lotion, and it is still believed by some folks to have healing properties. (*See at left*)

PENN WOOD FOLK

By John Guilday

FEW OF THE small ones are left today. Oh, there may be a fairly prosperous community somewhere, perhaps in the Seven Mountains or deep in a Pocono hemlock tangle, but it's been years since the last report in the western part of the state. It's been over 20 years since one was seen shivering on a bit of flood debris caught on the downriver side of a bridge pier at Pittsburgh. He crouched, defiant and vulnerable, until the current whirled his tiny raft out again into mid-stream to bob out of sight amid a grind of river ice, but not before the press was alerted. There reportedly is good photographic documentation in the files.

It is pretty well established that the last colony (we know of) in the north-

western part of the state was wiped out in the '30s when Pymatuning Swamp became Pymatuning Lake. Pymatuning, in Indian, means "the dwelling-place of the man with the crooked jaw." What is not generally known, however, is that the "man with the crooked jaw" was neither Indian nor white, but the actual leader of the vanished Pymatuning colony of the Folk. At one time their largest settlement, the colony waned after Pymatuning's death, and by the time the dam was built and the water began to rise, was almost deserted. One battered freight canoe was pulled from the causeway sluice years later, just as it was being crushed by the seething carp that swarm for anything the tourist will toss them. Its load was still lashed to the tattered thwarts but its value was not recognized at the time. A child snatched it to give her dolls rides. Its present whereabouts is unknown.

There are rumors at Big Springs, deep in the Kinzua Country, in one (and only one) rockslide high on Bald Eagle Mountain, and along the cliffs of the lower Susquehanna, that the Folk still persist there. A recent sight record in a Philadelphia flower garden, of all unlikely places, indicates that





THE PENN WOOD FOLK never recovered from the Colonial invasion from the east. The last one my grandfather saw was seated on a blackened stump in the woods, sobbing.

they are given to wandering and may, if conditions are right, recolonize areas from which they have been absent for centuries. The only other record for the Philadelphia area was a Swedish one from Tinicum Island.

Fluent in Languages

Let's try to piece together the little that is known of the life of the Folk. They speak the Indian tongues fluently. All Folk can converse in Dutch and Swedish, in Huguenot French or Palatine German, and in English if they must. But among themselves they speak only the Old Tongue, which sounds like the rolling of waters or wind soft through pines. Folk villages, as such, do not and never did exist. Each family group is dispersed throughout a loosely defined area. They have no known means of collective defense. A shy, independent people, the Folk have little communal sense. In times of crisis they were, and still are, pathetically vulnerable. They thrive best in wilderness, and

the coming of the first Indian into the area hit them hard. But 10,000 years of co-existence produced compromises on both sides. The Folk took on much of the Indian way and the Indians accepted them as part of their natural world.

They never recovered from the great Colonial invasion from the east, but, like the Indian, melted before it. The last of the Folk that my grandfather ever saw was seated on a blackened stump, sobbing. Being smaller and more secretive than the Indian, however, they could survive in small wilderness enclaves here and there. They even took on some of the ways of the white man, but the spirit had gone out. They gave up canoes forever when the first paddlewheelers started to ply the rivers. They learned to avoid the highways as well, and gradually were fragmented into tiny bands that grudgingly gave up the ghost as the plow and the power shovel hemmed them tighter and tighter. But some bands still survive. Too many hunters (always alone) have surprised them in some wilderness glade for us to doubt that.

It is reassuring to know that in a few small colonies they still exist relatively free and unaffected in Penn's Woods. Even though our goals have shifted from the hills to the moon and stars, we must always have the hills to come home to. It is a great comfort to know that the Old Ones still roam some remote glade, spirits of the forest, if you will, as eternal and rock hard as Tuscarora quartzite, but so soft and sensitive that nothing more than a crumpled candy wrapper dropped in the woods will drive them away. . . .

You smile. There are no such little people as the Penn Wood Folk, you say. They're nothing more than a legend, creatures of an almost forgotten fairytale that drifts through the forest depths like woodsmoke on a rainy day. Yes . . . that's what you say. But are you sure?

Gun Leather

By Gene West

WHETHER you're going up on the ridge behind the barn, north to Potter County, or clear out to Wyoming, Idaho, or Montana after game, the chances are your hunt will be more successful, and your rifle better cared for, if a little thought is given to selecting a few good leather accessories for it. Not only that, but the correct articles will also make the hunt a little easier and more enjoyable for you.

First, let's take a look at slings or, possibly more correctly, carrying straps for that rifle. Forget the target slings that must be adjusted before you crawl into them; in fact, forget any complicated type of sling and go for a simple and practical one. Along this line, there is only one that I can fully recommend, and that's the regular carrying-type sling as put out by several companies which is in all instances an inch and a half to two inches wide near one end and tapering at the other to about one inch. This wide strap is designed to fit on the top and front of the shoulder, where the weight of the rifle is borne. It effectively distributes the weight and makes a rifle seem far lighter than an ordinary strap after many hours on the trail.

Carrying slings should be just long enough so that the hunter may easily carry the rifle over his shoulder with no excess length to the sling. Some styles are lined with a soft suede leather, making them even more comfortable to the shoulder and more likely to stay in position without slippage.

Use quick-detachable swivels for attaching the sling to your rifle, rather than the permanent type. When hunting heavy brush, the sling tends to hang up and you'll want to remove it, rather than have it catch on every



A SADDLE SCABBARD is as necessary on a trail bike as on a horse. This one, by Red Head Brands, protects both rifle and scope very well.

bush. Even more important in the defense of quick-detachable swivels is the fact that all too many hunters, myself included, tend to be lazy, and if the sling is attached to the rifle, we'll use it for carrying, rather than have the rifle ready in our hands. If you have that rifle hanging on your shoulder when an 8-point whitetail makes two bounds and disappears in the thick stuff while you're trying to untangle it, you'll realize why I insist on quick-detachable swivels.

In almost all instances, that sling, when removed from the rifle, will fit around the hunter's waist, and the swivels will attach it there so it can't



GOOD CARRYING STRAPS for hunting rifles, such as these by Bianchi, Red Head, Boyt and Smith & Wesson, are wide where they contact shoulder, for comfort.

be lost. This forces you to carry the rifle in your hands and gives you a much better chance to quickly bring it into action when needed. Then, after you've bagged your buck, put the sling back on the rifle, drape it over your shoulder, and have both hands free when you tie into the work of dragging your trophy out of the woods.

Another item I find extremely handy is a cartridge belt. These are designed with a double row of loops to hold about 20 rifle cartridges securely in place, yet have them readily available. Most are approximately 2½ inches wide to distribute the weight evenly and add to the comfort of wearing them. They are available either lined or unlined. I prefer those that are lined with soft suede leather. I put a leather cartridge box on them as well, and use it to carry a small stone, if the knife sheath doesn't have a pocket for one, an exposure meter, pocket-knife, or a variety of other small

items. There is still more than sufficient room on the belt to also carry your hunting knife.

If you don't want to use the cartridge belt, the leather cartridge box affixed to your pants belt provides a handy, noiseless method of carrying an extra box of rifle cartridges.

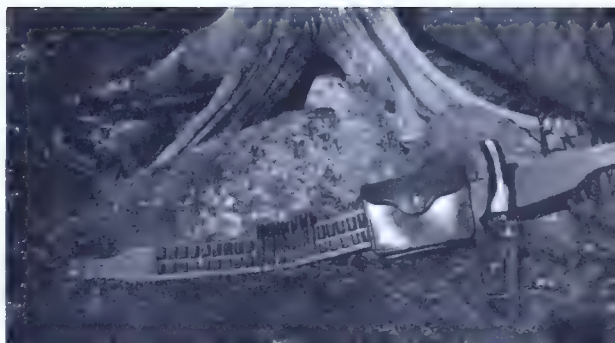
Should you be hunting from horseback or utilizing a motor scooter or trail machine to reach your hunting area, or simply need protection for the rifle in the back of the pickup or Jeep, a Western leather saddle scabbard is a mighty handy item. They're available for any type rifle from the short Model 94 carbine to a long-barreled bolt action rifle. This is one item that's apt to be subjected to considerable abuse, so to stand the gaff, and still offer protection to your rifle, get one in the heaviest leather available. Cheap, light leather may seem like a bargain at the time, but in the long run—especially when the protection of your gun is at stake—it's a poor buy. Spend a little more, and get the very best you can find. Kept well dressed with neatsfoot oil, a good one will give a lifetime of good service. However, it is not recommended that rifles be left in these leather scabbards for long periods of time between hunting seasons. Most leather has been acid tanned, and often enough minute particles remain to spot the finish of the gun. When the rifle is put away, it's best to clean it thoroughly, oil it lightly, and then store it elsewhere than in the scabbard.

Luggage Cases Needed

If you're traveling cross country on a hunting trip, strong, luggage-type cases to adequately protect your guns while in transit are a necessity. They should be sturdy enough that they may have other luggage piled on top of them, and that they will stand the rough handling which is so often the case when traveling by commercial transportation, be it anything from bus to plane. The interior should be well padded, preferably with poly-

foam of some sort, to adequately cushion both the gun and scope from bumps, jars, and dropping. The outside should be of a durable, scuff-proof material, the corners should be reinforced with some sort of metal, and last but, as the cliché goes, certainly not least, they should feature a locking system. Nothing could be more disheartening than to get off a plane, 2000 miles from home, open your gun case, and find the rifle missing. And don't think things like that don't happen! Guns are mighty susceptible to theft, and they're becoming more so.

Probably one of the most practical, all-around gun cases is the Keith model as put out by Boyt. Gun expert Elmer Keith designed it as a saddle scabbard for use in heavy, rough weather, but its value extends far beyond that. It is of heavy bullhide and completely enclosed with a heavy-duty zipper opening. The interior is fully fleece lined to adequately cushion and protect the rifle, and it can be had for a 26-inch bolt action rifle with scope. As it was designed for saddle hunting in the Rocky Mountains, it naturally has loops and straps to fasten it to the saddle. One of the more remarkable features, however, is that the heavy sheepskin lining is laced in at the zippered opening.



CARTRIDGE BELT makes it easy to carry ammo, knife, and leather box for a light meter, compass, or other small items that might be needed.

Should it in any way become water-soaked, this lining is easily removed to facilitate drying.

This past fall I drove to Texas for a hunt there, and took a variety of rifles and shotguns with me. On the trip down and back, this case held a scoped rifle and was carried in the small camper on the back of my pickup. During the week spent hunting there, it saw daily use, either in the back of a Scout or pickup, carrying an extra scoped rifle as we bounced over a great part of the Texas hill country. And it did more than an adequate job of protecting both the rifle and scope. I know that it can do the same for a Pennsylvania deer hunter.

New Game Protector Class Is Scheduled

Recruitment of a new class of Game Protectors who will begin training next year was approved at a recent meeting of the Pennsylvania Game Commission. The Commission, meeting in Williamsport, announced that a class of approximately 25 trainees will be selected in a process starting this fall. Public announcements will be made at the appropriate time concerning eligibility requirements and the procedure to be followed by applicants.

Classes will begin for trainees late next winter, with graduation scheduled for the winter of 1973. Instruction is centered at the Game Commission's Training School near Brockway, Jefferson County, with practical field application at appropriate seasons of the year throughout the state. The new class will be the fifteenth to be trained since 1936.

BACKPACKING!

By Del and Lois Kerr



BACKPACKER ON THE Susquehannock Trail stops a few minutes to study beaver dam in the Hammersley Run section of southern Potter County.

BLUE COUNTRY—that unspoiled, majestic, often mysterious, blue-to-purple primitive expanse near the horizon—is the foot traveler's Shangri-La. Cinching a backpack and striking a compass course for areas known only as "distant views" by road-bound observers is the last word in stimulating, wholesome recreation to a growing number of outdoor enthusiasts.

Even a simple overnighter deep within a living, breathing forest is guaranteed to provide long-lasting memories. It creates an acute awareness of surroundings, of sights and sounds denied the ordinary individual. Without doubt, penetrating the hinterlands

on foot sharpens the senses and, possibly for the first time in his life, forces a man to rely on his own mettle. The person who spends time as a guest of nature and meets the world of the outdoors squarely on its own terms can't help but stand a shade taller.

A half century ago, backpacking was limited mostly to rugged individuals such as Nessmuk and Kephart, men who could shoulder loads nearly heavy enough to flatten a pack mule. Now the picture has changed. Modern, ultra-lightweight backpacking equipment has cleared the path to adventure. Whole family groups are now having the time of their lives by setting sights for the blue country and pushing deep into the wilds. In Pennsylvania, areas beyond the last road include many thousands of dense timberland acres reached by hundreds of miles of trails. These are regions of unharnessed, frolicking wildlife, of leaping native brook trout, of landscapes seen by few people—space where a man still has room to breathe.

The picture is appealing—perhaps too much so for the overly ambitious. Captured in enthusiasm, many people have dashed off for the boondocks without adequate preparation. End result can be only frustration and disappointment if not a downright nightmarish experience.

Novice backpackers usually make one serious mistake which is often realized within the first mile or so: *their load is entirely too heavy*. Nowadays there is only one reason for packing on foot—to enjoy a stay in the outdoors. But you simply can't have a good time if constantly straining and chafing under too much cargo.

Experienced, mile-eating brushbenders realize that an excess pound in the morning will feel like a dead horse in the afternoon if terrain is rugged. And it takes only eight two-ounce items to produce that pound. We know some packers so weight conscious they clip handles off toothbrushes!

The number of items necessary to sustain a hiker comfortably, whether for an over-

nighter or extended stay, seems quite large. Shelter, bedding, food, cooking and eating utensils—the list grows quickly. However, an adequate cargo need not be synonymous with a heavy load. As a rule, the average healthy male should limit his pack weight to around 30 pounds for a trip of several days to a week, much less for an over-nighter. Women and children should carry correspondingly lighter loads.

The first step toward successful blue country travel is selecting proper gear. Good equipment is doubly important when considerable distance and repeated forays into back regions are planned. A backpack should “fit” as well as your boots.

Avoid a simple open-sack pack. This is suitable for nothing but short, overnight bivouacs. It is impossible to keep items in proper places, and it is necessary to lean forward to maintain balance. Muscles soon protest. Pack baskets are still used by some Northern trappers but have almost no value in serious backpacking.

Most seasoned hikers prefer packs with separate compartments. Side pockets are standard on many units. Each item has a special place; weight is distributed and maintained. Select an outfit with rigid shoulder straps at least two inches wide, preferably padded. Short sections of padding may be added later, however.

Some modern models have built-in frames which more or less keep bulky items away from the back. Even better are separate pack frames made of aluminum or other lightweight material. With such a unit, frame and pack may be quickly adjusted on the back for uphill or downhill travel, or drawn tight when footing becomes tricky.

I favor a nylon, water repellent pack with four roomy, zippered compartments. Large metal eyelets simply hook over studs on the frame. Pack and frame together weigh but 3½ pounds. Newer models weigh even less.

One highly favorable feature on quality frames is a “gut strap” with a quick-release buckle. This permits raising or lowering the unit at will and places a portion of the weight on the hips.

Carrying the pack high is recommended. The load seems lighter, since the unit closely aligns with the hiker’s center of gravity. However, snug straps are necessary to prevent pack sway. I keep straps so tight it is impossible to place both arms through the shoulder bands without first disconnecting one sling.

Bottom compartment of my pack accommodates only a sleeping bag. Even a large bag slips in easily by compressing it with an old leather belt. If the bag must go outside the pack, it should be carried in a sturdy stuff bag and lashed tightly to the pack or frame.

On this note, a word about wet weather is in order. Many a backpacking trip has been ruined because the sleeping bag was exposed to rain. It often takes days for a thoroughly soaked bag to dry without sunshine. Since suitable shelter is difficult to find in the woods, a rain poncho is a wise investment. It covers both the hiker and his pack. A thin sheet of plastic will do in an emergency.

Down Bags Lightest

We use sleeping bags filled with three pounds of virgin synthetic fibers and find them adequate for spring-to-fall bivouacs in Pennsylvania’s northern climate. One drawback is weight. Our bags tip the scale at 5½ pounds each. Nylon-covered goose down bags of comparative warmth will weigh at least two pounds less.

Our family is usually comfortable using the forest floor as a mattress. Many hikers do not agree. For those willing to carry an extra pound, hip length foam rubber mattresses are made for backpackers.

In the fall, when the ground becomes chilly and dry leaves are numerous, it is easy to prepare a warm, comfortable bed. Simply fold a sheet of plastic to keep leaves from shifting.

Whether or not to carry a tent is a matter of personal preference. We feel that much of the satisfaction in backpacking comes from the feeling of oneness with forest surroundings. This, we believe, can be only partly fulfilled when there is a barrier of canvas or nylon. Nevertheless some provision against rain must be considered. We usually carry a 10- x 16-foot sheet of plastic. It weighs just four pounds. This is large enough to construct a lean-to with room for four people. It is erected only when rain during the night is likely.

One disadvantage to sleeping in the open is the presence of mosquitoes and other night-flying insects which, at certain times of the year, can be a major nuisance. It is not always possible or desirable to camp on a breezy ridgetop just to avoid unwanted company. There is an easy solution. Many sleeping bags come complete with a short wrap-around cover. Using a couple of sticks

and a length of cord, the cover can be fashioned into a fly over the head. It's then a simple matter to enclose open areas with cheesecloth and enjoy a restful night's sleep.

Tents have plenty of good points, of course. Modern backpacking models are light, erect quickly, and offer peace of mind against sudden inclement weather or when camping in snake country. Most have



TODAY'S LIGHTWEIGHT trail food is both tasty and nourishing. Packages for a full meal weigh only ounces and require no refrigeration.

sewn-in floors, screened windows and door, and a wide storm flap at the bottom of doorway.

Don't carry a tent that's larger than absolutely necessary. Two-man tents weighing only six pounds, including stakes and telescoping poles, are available. We carry two two-man tents for our family of four when shelters are required, rather than one large one. A large level area with a comfortable surface is surprisingly difficult to find in many wooded areas.

Assume you have just awakened after your first night in the bush. You're as hungry as a bear coming out of hibernation. A good question is, "What's for breakfast?" It's not out of order to say just about anything you're used to eating at home. Breakfast is particularly important in the blue country, and skimping on energy-producing grub will take its toll on the trail.

Carrying heavy cans, bottles and boxes from the kitchen pantry is not realistic. However, the contents may be taken if refrigeration is not required. In most cases, only the amount and the container is

changed. For example, how much does a 14-ounce bottle of ketchup really weigh? Fourteen ounces if you eliminate the heavy glass bottle. The idea is to estimate how many ounces of a particular item will be used, and then place it in the smallest, lightest container possible.

Jellies, maple syrup, peanut butter and other gooey favorites can be taken. Plastic refillable squeeze tubes are available which, after filling, seal from the bottom. When used, the cap is removed and the desired quantity squeezed out.

Bannock for Breakfast

Substitution of foods is worthy of consideration. For instance, hot bannock (frypan bread) with maple syrup in the morning is just as good as hotcakes. At the end of the day's journey, hot bannock smothered under brown gravy will be wolfed down as readily as mashed potatoes. Instant coffee boiled in a pot over a campfire picks up flavor, in our opinion, surpassing that of brewed grounds at home.

It is best to carry powders such as coffee and flour in small individual packets to prevent damage from dampness. These can be purchased in such form or easily prepared at home.

One way to strip off pounds significantly is to select lightweight trail foods to supplement or replace grub from home. Today's dehydrated foods are tasty and filling. Although many lightweight items now can be purchased in local food stores, the prospective wilderness traveler should contact some of the nationally known companies that specialize in trail foods (see accompanying list). Most menu lists and catalogs are free, and it is wise to write well ahead of the planned trip.

If you know where safe water is located, plan meal stops accordingly. This eliminates carrying more than a token amount of water on the trail. Seldom will it be necessary to carry more than a canteen, since drinking large amounts of water while traveling is inadvisable, particularly in hot weather. Eating a handful of raisins from time to time builds energy as well as reducing thirst.

For cooking water purposes, nothing beats a plastic collapsible water bag. Empty it weighs only ounces, but holds a gallon or more of water. It is not puncture proof, so it's best to carry a spare.

It is difficult to find a lighter cooking outfit than the official Boy Scout cook kit. Weighing only 12 ounces totally are an

aluminum fry pan, with cover that doubles as a serving dish, stew pot with bail handle and cover, and a plastic cup. With additional plates and cups, each cook kit will serve two to four people, depending on type and quantity of food prepared.

A hiker's supply of matches should always include a quantity for emergency tucked away in a waterproof match safe. But it is surprising how many people simply do not know how to build a fire except by chance. Because of this, many newcomers burden themselves with a stove and fuel. Others may believe cooking over an open fire is a long, involved process. Nothing could be farther from the truth.

Actually, if you can strike a match you can have a fire going and ready to cook in very short order. And a full meal can be prepared much faster over an open fire than on a stove small enough to carry into the blue country. A large fire is neither necessary nor desired. For the most part, use only "squaw wood"—material which can be broken by hand or across the knee.

Any flame requires oxygen to burn. This oxygen must be replaced immediately during the burning process. Air is sucked into the combustion point—the bottom of the flame. For this reason, fuel ignited on the ground creates clouds of smoke, a sign that fuel is oxygen starved.

One fire-building method which is almost foolproof is a simple variation of the age-old "log cabin" fire. Place six or eight thumb-sized sticks about one-quarter inch apart across a couple of two- to three-inch base logs. These sticks might be considered the "grates" of the hiker's outdoor furnace.

Crisscross Tinder

Crisscross bone-dry tinder over the grates; a depth of an inch or so is about right. Stock of one-half to one-inch diameter is used to construct a miniature log cabin around the tinder. To put energy from initial starting fuel to work, place a layer of sticks about the thickness of a pencil directly over the tinder. Leave an air space of up to one-half inch between the sticks. Some woodsmen construct additional layers using progressively heavier stock. At any rate, work closer to the center with each layer, so that as the structure burns everything falls between the base logs.

To start the fire, hold a match under the bottom, causing flames to surge up the cone of fuel. Such a fire burns rapidly; therefore, it is essential to keep the pyramid of sticks



TRAILS, LOGGING ROADS and forest lanes often penetrate remote areas, but hikers aiming cross-country should be familiar with topo map reading and compass use.

small. The idea is to reduce the fuel to hot coals in the shortest amount of time.

Meals are cooked either over (or in) the glowing coals or over a small controlled fire maintained by adding fuel as needed. We usually construct a temporary fireplace, if stones are handy, and use a grill made from a six-ounce 15- x 5-inch steel rod bent into a "U" shape.

Always check with local rangers or foresters to make sure open fires are permitted in your area. In extremely dry periods (usually early spring or late fall), fires and even smoking may be banned. It goes without saying that the fire must be built on mineral earth, creek sand or other safe location. It is the hiker's responsibility to make certain the last ash is cold before leaving the site.

As a rule, firewood is available in great quantities in wooded areas and even sizable pieces may easily be broken over a log. A hatchet or small ax is unnecessary, yet is usually carried by the novice packer, adding to his discomfort. When a new campsite

will be found each night, there is no practical reason to include anything larger than a pocketknife.

Actually, the only firewood we cut on backpacking trips is tinder. Most rapid ignition of starting fuel is obtained by breaking off pencil-thick sticks from a seasoned blowdown. Using a jackknife, split these to about toothpick proportions. Material of this type accepts flame much more rapidly than whole twigs of equal size. Larger wood is added to the fire as needed.

Some people shy away from backpacking trips into remote regions from fear of becoming lost. There is little likelihood of a major unscheduled sightseeing tour if the hiker has two essential items—a topographic map and a reliable compass—and knows how to use them. The novice would do well to spend an evening learning the basics of map reading. Adeptness comes swiftly on the trail. Mounds of information are available on the use of maps and compasses. An excellent primer course appeared in the October, 1967, *GAME NEWS*.

Unfortunately, many newcomers fail to fully utilize a topographic map. Amazingly accurate, a topo or contour map is a virtual storehouse of information. It shows the shape of mountains, ridges, valleys, and other land features, and it reveals in great clarity the gentleness or steepness of mountainsides, natural passes through divides, probable locations of headwater springs and other items of importance to the foot traveler. From it,

an experienced backpacker will pick out promising campsites long before his trip begins.

Government surveys have produced topographic maps for every section of Pennsylvania. First step is to obtain an index map of the state by writing the U. S. Geological Survey, Washington, D. C. 20242. Quadrangles are shown for each county and for sections of counties. Cost of topographic maps is nominal. Reference map facilities may be found in libraries of Philadelphia, Pittsburgh, South Bethlehem and State College. Quadrangles of northern forested areas may be purchased in many sporting goods stores.

Map Data

Best for hikers, when available, are quadrangles covering $7\frac{1}{2}$ minutes of latitude and longitude and published at the scale of 1:24,000 (one inch = 2,000 feet). At this scale, one mile equals approximately 2½ inches; distances may be plotted readily and accurately.

Maps of the $7\frac{1}{2}$ -minute series may be obtained for much of the state east of Harrisburg as well as portions of Clearfield, Clinton, Cameron, Potter, McKean, Tioga, Westmoreland, Beaver, Washington, Allegheny, Franklin and Adams Counties. Available for remaining areas of the state are 15-minute series maps in which one inch equals approximately one mile (1:62,500). On both series, contour lines are usually drawn at 20-foot elevations. Be sure to specify maps with green overlay which denotes woodlands.

A compass is necessary and backpackers should always include one, if for no other reason than to orient topo maps. Under certain conditions a compass may be consulted frequently. In some mountainous areas, such as those of northcentral Pennsylvania, long ridges often branch off mountain divides with little or no change in elevation. It is easy to swing onto a spur ridge on a sunless, windless day if attention is distracted and particularly if a logging road or path happens to turn in that direction. On fairly level land, such as found in sections of the Allegheny National Forest, a person has a natural tendency to circle unless guided by sun or wind.

The novice may gain peace of mind by carrying a pedometer and recording mileage on his topo map ever so often, particularly when passing a prominent landmark. Should he stray off course, he will know at a glance



FREQUENT SHORT rest stops are recommended for novice backpackers. Some youngsters have unique ideas about comfortable positions for resting!

how far he must backtrack to the point where he was last sure of his location.

First item of business in such a situation is to sit down for a few minutes and do nothing but enjoy the view. Then, and only then, draw a circle on the map around the last known location, using the mileage from there to your present position as the radius. Upon orienting the topo map with a compass, the mistake should quickly become obvious. If darkness is near, make camp on the spot until morning. No one is better prepared to spend a night in the woods than a backpacker. It's like being invited out to dinner and already being dressed for the occasion.

Maximum Comfort

Loose fitting garments provide maximum comfort on the trail. Cotton twill trousers and lightweight cotton shirts are popular during the normal camping season. Shorts are advisable only when hiking on trails known to be free of brush.

Temperature in the state's northern area has been known to dip down to freezing on a July night. However, a heavy jacket serves only to burden the hiker throughout the entire trip and chances are good that it will not be used. We recommend only a sweater, windbreaker, or possibly the top section of a suit of thermal underwear. Wise selection of a sleeping bag will eliminate carrying warm clothing.

A cap, preferably ventilated, should be worn to protect the head from the sun. Fluorescent blaze orange caps such as those worn by chuck hunters in the summer are fine.

Socks are more important than food. Heavy socks are required: wool or a combination of wool and nylon fit the bill nicely. It is important to have a clean pair for every day's travel. Washing them at night cuts down on the number needed. During hot weather, it pays to change socks at midday. Alcohol baths for a week or so before the trip will help toughen feet.

Hiking boots are an asset but expensive. If distance walked is held to five or six miles per day, the novice may wear everyday shoes, provided they are comfortable, well-broken-in, and have soles with non-slip treads. Feet begin to swell after a mile or two of woods travel, particularly with the additional load of a backpack. Walking more than a few miles per day in ordinary shoes will often lead to trouble for the average person.

When the time comes to purchase hiking boots, compensate for swelling feet by selecting a size larger than normal. A good all-around boot is one with an outer layer of sturdy but not unduly stiff leather and soles with deep rubber lugs. Some are completely padded inside, even to the tongue. Six-inch-high boots are most popular, with eight-inchers running a close second. By all means, avoid excessively heavy boots. You must lift this weight with every step, and the average person takes approximately 2500 steps in every mile!

Several extra ounces on a boot adds up to tons of unnecessary weight lifted in a day.

There is little chance of a blister if the hiker fears well-fitting, comfortable shoes and heavy socks. Should an irritation develop, stop immediately and tend to the affected area. Moleskin helps. Blisters on the feet will ruin a backpacking trip in a hurry.

A first-aid kit should contain small quantities of all standard items, including a burn ointment—often forgotten—and a snakebite kit. You'll probably never use this in a lifetime of backpacking, but if you ever do need it, you'll need it badly! It is perhaps the only item taken on a wilderness trip which does not have a planned use from the start. Anything else that is doubtful would be better left behind.

Don't be afraid to go to extremes in limiting pack weight. Will you use a whole bar of soap during the trip? Or will a quarter bar be sufficient? Scouring pads weigh little, but added to other "little" items contribute to that dead horse in the pack. Use a handful of dry leaves or sandy grass roots for cleaning pots and pans.

Consider carefully the worth of anything such as cameras, or binoculars. If taken, carry them in a belt case rather than on a neck strap, which creates a great deal of discomfort.

Comfort is the keynote to backpacking and this is achieved only by whittling weight to a minimum. And take your time. The novice will enjoy his trip far more if he walks only about 19 miles per day in easy country and six or seven miles per day in rugged terrain. A marathon race has no place in family backpacking.

During hot weather, begin the hike as early as possible and put most of the day's distance behind you before noon. Walk leisurely during the hot portion of the day. Unless you have a definite place in mind for the night's camp, begin watching for a likely spot while there is still plenty of



WITH YOUNGSTERS ALONG, short distances between camp sites are best. This gives plenty of time for exploring the area around each day's camp and getting a proper appreciation for nature.

daylight. We often stop as early as the middle of the afternoon when youngsters are along.

When preparing camp, glance overhead for dead limbs. Don't select a site under the tallest trees in the vicinity, whether in a valley or on a ridgetop, in case of an electrical storm. Make sure your potential campsite is high and dry by studying the site for traces of water runoff. Always inform someone of at least the general area in which you intend to travel and the approximate time you plan to return.

A person new to backpacking would be wise to utilize marked hiking trails for at least the first few trips. Some popular trails in the state include the Pennsylvania portion of the Maine-to-Georgia Appalachian Trail, 215 miles, near Waynesboro on the Maryland border to Delaware Water Gap on the New Jersey border; Baker Trail, 103 miles,

Freeport to Tionesta; Loyalsock Trail, 33 miles, Montoursville to Worlds End State Park.

Also, Darlington Trail, 25 miles, Sterretts Gap to Manada Gap; Horse-Shoe Trail, 121 miles, Valley Forge to Rattling Run Gap; Brandywine Trail, 28 miles, Wilmington to a point near Devault; and the Susquehannock Trail, 85 miles, beginning and ending on Denton Hill, Potter County. Information on any of these may be obtained by writing the Keystone Trails Association, Box 144, Concordville, Pa.

The Susquehannock Hiking Trail is one of the newest in the state. A giant oval, the trail permits parking a vehicle, walking for 85 miles through state forest land and returning to the starting point without retracing your steps. We recommend the "Big Susque" for beginners and pros alike. Allow six or seven days for the trip. Cost of topo-trail maps is one dollar per set ordered from Potter County Recreation, Inc., P. O. Box 249, Coudersport, Pa. 16915.

Some Trail Food Sources

Dri-Lite Foods, 11333 Atlantic, Lynwood, Calif. 90262.

Chuck Wagon Foods, Micro Dr., Woburn, Mass. 01801.

Stowaway Products, P. O. Box 132W, Cohasset, Mass. 02025.

Bernard Food Industries, Inc., Evanston, Ill. 60200.

Trail Chef, 1109 S. Wall St., Los Angeles, Calif. 90015.

Seidel & Son, Inc., Elk Grove Village, Ill. 60007.

Kelty Backpack, 1801 Victory Blvd., Glendale, Calif. 90000.

Alaska Sleeping Bag Co., 13150 S.W. Dawson Way, Beaverton, Ore. 97005.

I. Goldberg, 902 Chestnut St., Philadelphia, Pa. 19107 (35c).

Think Orange

Safety experts readily agree on one subject—it's advisable to wear fluorescent orange while hunting. Statistics from all states and provinces show that wearing of safety-colored clothing results in reduction of accidents. It is every hunter's responsibility to see and be seen. Set an example for your fellow sportsmen by wearing fluorescent orange when afield. It is the easiest color seen under poor light conditions.



A GENERAL VIEW OF THE Lake Ontelaunee dam and the main area of the reservoir. The watershed contains over 3000 acres.

A LOOK AT ONTELAUNEE

By Brooke Focht

NO ONE considered, back in 1935 when the city of Reading's Lake Ontelaunee reservoir was completed, that the sprawling 3140-acre watershed would develop into one of the finest examples of cooperation between a municipality and a state governmental agency. But that is just what happened, due to respect and understanding between the various city administrations and representatives of the Pennsylvania Game Commission.

During the period when the dam breast was being built, thousands of evergreen trees were planted in the watershed surrounding the dam site, which is about eight miles north of Reading in Berks County. This protective cover offered ideal protection to small game and soon the area was

harboring an excellent supply of cottontail rabbits, pheasants, squirrels, deer, foxes and other small predators.

Someone conceived the idea of live-trapping the rabbits and releasing them in open hunting territory throughout Berks County, so the Game Commission men, notably Merton J. Golden, then a Game Protector and later the Commission's Executive Director, got together with members of the Federated Sportsmen's Clubs of Berks County. They came up with the idea of rabbit drives every Sunday, weather permitting, from the end of deer season until mid-March. These rabbit drives not only provided healthy acclimated cottontails for stocking, but also promoted invaluable good will between the federation's various clubs

The Game Law Violator Is Stealing From You!

and the Game Commission. City administrators, too, got full credit for permitting the multiple use of the reservoir tract.

Some native ingenuity was used in setting up the rabbit drives. First, a large brush pile was established in an open area on the watershed. Then a rope seine net about 36 inches high was strung out in a large "V" with the brush pile in the center.

Lining up and marching shoulder to shoulder, sportsmen drove the area, pushing the rabbits into the net and brush pile "corral." As the drive progressed, another net already positioned inside the longer "V" would be positioned behind the fleeing rabbits. The rabbits would either bounce off the net or take refuge in the brush pile.

Caught By Hand

The rabbits were caught by hand amidst much good-natured banter, much of it in the Pennsylvania Dutch vernacular, and placed in crates for later distribution. The day's take was divided in proportion to the number of representatives from each club who participated. The watershed was literally a wild rabbit factory!

These early rabbit drives called attention to the hunting in the area and it soon was being over-hunted. Therefore on October 20, 1936, an agreement was reached between the city and the Game Commission to establish the Lake Ontelaunee watershed as an auxiliary game refuge. This agreement continued until October 6, 1949, when the area's status was changed to a propagation area. It has been so designated ever since.

The propagation area status provided protection for the area through

laws which prohibit anyone from entering such an area at any time of the year. This permitted the cottontails to multiply without undo human interference.

However, because the 1100-acre lake provided excellent fishing, anglers were permitted there except during October, November and December—the small game and waterfowl hunting seasons.

Time marched on. And the evergreen trees grew so tall that they choked out the smaller shrubs and undergrowth so vital for small game. The supply of cottontails dwindled until it was impractical to hold the rabbit drives and they were halted in 1950. The peak year, the winter of 1941, saw 1995 cottontails live-trapped at the watershed and stocked elsewhere in Berks County.

But that has not ended the watershed's usefulness as a benefit to hunting in the area. The years immediately after World War II saw dove hunting develop into a major pastime in Pennsylvania, and the Lake Ontelaunee evergreens provide excellent nesting sites for these game birds. Gunners, for years now, have been harvesting thousands of incoming doves on the outer perimeter of the watershed. Recently, Game Protectors have been live-trapping and banding doves as part of a cooperative study of the bird's habits between the Game Commission and the U. S. Fish and Wildlife Service.

The state's deer herd, too, has grown over the years. Many farmland whitetails, finding the watershed's cover to their liking, reared their young there. In fact, the deer herd in the Lake Ontelaunee watershed area grew to such an extent that neighboring farmers and orchardists complained of crop damage and damaged trees. Therefore, the area was opened during several antlerless seasons and enough deer were harvested on the watershed to ease the complaints.

Crow hunters, over the years, found that the watershed's pines attract the

black rascals. For several winters, until the crowds just grew out of control, the area was opened to public crow shooting on specified dates. Thousands of hunters, many from adjoining states after the word got around, converged on the lake for a gigantic crow hunt. Members of the Berks County Chapter of the Izaak Walton League did a land-office business selling hot refreshments. Even temperatures hovering around the zero mark failed to keep the crow hunters away. It's believed that the watershed's large crow population during the winter is comprised of birds which migrate to eastern Pennsylvania from Canada and then return north for the warmer seasons.

Berks County is on one of the major routes of the nation's Atlantic Flyway for migrating waterfowl. And the picturesque lake nestling in the heart of the Pennsylvania Dutch farm country has always attracted traveling ducks and geese. They use it for a resting area during the fall and spring migrations.

About 20 years ago Game Commission personnel released on the watershed several Canada honkers with

their flight feathers trimmed to prevent their long flights. These geese raised their young there that first summer, then flew south during the fall migration. However, they returned to Lake Ontelaunee in the spring and remained there instead of continuing farther north with the main flocks. These "native" geese have increased generation after generation. Now, quite a sizable flock uses the Lake Ontelaunee area until it freezes over. Then, instead of deserting Berks County, they find open water and remain, feeding on corn left on the ground by mechanized corn pickers.

Good Shooting Coming

Upon completion of the Middle Creek Waterfowl Area near Klinefeltersville, about 20 miles southwest of Lake Ontelaunee, and the nearby Blue Marsh Waterfowl and Upland Game Area of the Tulpehocken Creek next to a planned federal reservoir, the Berks County area should enjoy some prime waterfowl shooting.

Game Protector Jack Weaver, whose district includes the watershed area, estimates that about 1500 geese and twice that many ducks use Lake Onte-

ONTELAUNEE WATERSHED COMES within the district of Game Protector Jack Weaver, of Kutztown, who studies a food plot here.





FLOCK OF MALLARDS takes off from Lake Ontelaunee at approach of photographer. The reservoir provides refuge for many waterfowl.

launee the year around. The birds disperse along all county streams during the breeding season, but the lake remains the center of their activities. During the spring and fall migrations, the waterfowl population on the watershed more than doubles.

To attract and hold waterfowl, especially geese, around Lake Ontelaunee, food plots located beside isolated coves of the reservoir tract and several miles of maintenance roads have been planted with winter wheat, clover, and

grass—favorite foods of the honkers. Samuel McFarland, of Centerport, land manager for the Commission's Southeast Division, directs food and cover men in the planting of these plots. Weaver, who lives in nearby Kutztown, is in charge of law enforcement work.

The food plots are located around the lake shore and brush has been cleared in their proximity because of the honkers' habit of always feeding where there is visibility for the sentries who watch while other members of the flock feed. Every two weeks during the summer and fall, the food plots are mowed to keep them green and succulent. Geese are natural grazers and they prefer young and tender grasses and clover. These must be located near water for the safety of the young.

Winter wheat is planted in late summer in time to provide green browse for the fall migrants. The food plots help hold waterfowl in the area for weeks instead of days. This provides good waterfowl hunting in the surrounding countryside, for although they use the food plots extensively, the ducks and geese generally fly out of the refuge to feed on surrounding farms in the early morning and late afternoon, returning to the refuge to sleep.

The waterfowl food plot project will be continued at Lake Ontelaunee, actual proof that wildlife management is a many-faceted operation.

Banded Wild Turkey Found After 7 Years

A wild turkey banded by the Game Commission seven years ago has been found in Warren County. The turkey was trapped in 1964 in Forest County and was two years old at that time. It was banded and then released in Warren County, 31 air miles away. It was found about one mile from the point at which it was released seven years ago.

The longevity record is a new one for banded wild turkeys in Pennsylvania. Although it is believed that some turkeys have lived longer in the wild than the nine years recorded by this particular bird, this is the longest documented record. There was no evidence that this bird died from old age or starvation; rather, it appeared that the turkey had fallen victim to a predator or a vehicle.

No Matter Where One Goes in the U. S. A., He'll Find This Plant, a Sturdy but Genteel Friend, Waiting to Welcome Him . . .

Common Mullein . . . a Genuine Pioneer

By Carsten Ahrens

ON A RECENT trip by car across our country, my family was intrigued by the wildflowers along the rural roads . . . we avoided the turnpikes and throughways whenever possible. Communities of plants change greatly across 3000 miles, and we found what is abundant in Pennsylvania is probably unknown in Wyoming. In places, the roadsides were adorned with alfalfa, blue-bonnets, bugloss, buttonweeds, prickly-pear cactus, chicory (usually accompanied by Queen Anne's lace), prairie sunflowers, sagebrush, vetch, and, oh, a thousand others.

But one plant defied soil and climate changes. Stiffly but with dignity it marched all the way from New Jersey to British Columbia and on to Oregon. It's the common mullein, a sturdy American that like most of us was European before this country was colonized. It just hitchhiked along with the early settlers. And it came equipped with woolly leaves that discouraged bison and lesser creatures from trespassing.

We have five species of mullein in America, all former Europeans. But the common mullein is the best known. It has a stout woody stock that may rise six feet or more and is topped with a sturdy round flower spike, starred with small bright yellow flowers. The woolly, whitish-green leaves are stemless and grow around the stalk.

The plant seems to grow around the year. During the winter, there is no sign of upright parts. The plant forms a woolly rosette of overlapping leaves. It shares this habit with the prickly teasels. Usually it lies flat, hugging the ground amid the weeds or grass of



meadow or pasture, as though trying to escape the icy winds. By spring it is ready to push up the stalk, and the thick rosette, having done its work, disappears.

Mention should be made of its slender cousin, the moth mullein, which would seem to have little in common with its husky relative. Only the individual flowers are similar. All the mulleins are pollinated by insects, especially bees, butterflies, and moths, and belong to the great figwort family with relatives like the pentstemons, turtle heads, butter and eggs, monkey flowers, etc.

If anyone is looking for *the* continental flower of North America, our family would like to nominate the common mullein. It will grow almost anywhere and, while it isn't pushy, it's ready to protect itself the year through.



George E. Sprankle
Land Manager
Mehoopany



David R. Titus
District Game Protector
Warren



R
Conse



Joseph A. Leiendecker
District Game Protector
Reading



Bruce W. Catherman
Pittman-Robertson Area Leader
Ligonier

35th

ON JULY 2, 1935, the first class of Game Protector training at the Ross Game Preserve near Brockway. This course of instruction, covering game management, graduated on February 1, 1936, as shown on these pages. The Commission. Their service over all these years in the Commission's programs. We wish to express the appreciation of the Pennsylvania sportsmen.

James A. Osman
Game Conservation Officer IV
Etters

Robert S. Lichtenberger
Deputy Executive Director
Camp Hill





ian
m Asst.



Richard W. Orr
*Law Enforcement Asst.
Shillington*



Clyde E. Laubach
*District Game Protector
Elysburg*

ersary

ago this month, the
ation Officers began
ool of Conservation,
began the intensive
led law enforcement,
subjects, and 27 were
Of these, the 13 men
employed by the Game
loyalty and industry
valuable to the Com-
take this opportunity
n we know all Penn-
efforts.



Edwin W. Flexer
*Land Manager
Quakertown*



Duane E. Lettie
*Land Management Asst.
Harvey's Lake*

Raymond H. Morningstar
*Supervisor, Northcentral Division
Jersey Shore*

Albert R. Bachman
*Game Conservation Officer IV
Sinking Spring*





FIELD NOTES



One-Way Tickets the Answer?

CRAWFORD COUNTY—Do the litterbugs go south in winter, or does the snow cover most of it? By the looks of the highways this spring, it seems that about the time the robins return so do the litterbugs.—District Game Protector J. R. Miller, Meadville.



That's Another Question

McKEAN COUNTY—While on patrol on Combs Creek, Deputy Hasper and I came upon two young boys fishing in an area closed to fishing. When the boys were approached one said, "Is this posted?" We replied yes. Deputy Hasper asked the boys if they went to school. The answer was yes. He then asked if they knew how to read, and again the answer was yes. He asked the one boy to step around the tree and read the sign (which read "Fishing Prohibited"). The boy told us it said "Fishing Not Permitted." I told the boys they could fish right above where the signs began, and the one lad asked, "Is that where they stock all the little ones?"—District Game Protector J. E. Rankin, Port Allegany.

New Country Heard From

WAYNE COUNTY—Game Commission officers receive mail from far and wide, but the following letter sets a new record for me:

Sudan Interior Mission
Jos, Nigeria
17 April, 1971

Dear Mr. Weigelt:

I was sorry to hear of your "accusers" (February *GAME NEWS*, p. 36), as I would enjoy hearing more of my home county. Although I have traveled on four continents, visited nearly 30 countries, and resided in Africa for the past seven years, I have yet to find hunting as enjoyable as in Wayne County. In many countries hunting licenses, firearms permits and guides are very expensive. Although Pennsylvania woods can get cold in deer season, the African bush can be far more uncomfortable with heat. Game is abundant in parts of Africa and *non-existent* in other parts. I'll take Pennsylvania hunting any day!

Sincerely,
Bob Swingle
Missionary Pilot

—District Game Protector F. G. Weigelt, Galilee.

Look at the Pictures, Friend

ERIE COUNTY—While selling *GAME NEWS* subscriptions recently, Deputy Lalli explained the many good features of the magazine to an elderly foreign-born gentleman. Although seemingly enthusiastic, the man regretfully stated that although he could speak and understand English, he could not read it.—District Game Protector A. C. Martin, Erie.

Help From the Mountaineers

BEAVER COUNTY — Beaver County was plagued with brush and ground fires throughout April. Many ground nesting birds and animals were lost to these fires. Thanks to the various volunteer fire companies, the losses were held to a minimum. Deputy Tingler told me that he discovered a large brush fire in Hanover Township. He called the local fire companies and all were out on call. He called for help in West Virginia and three companies answered with four trucks and 40 men. They were the volunteer firemen from New Cumberland, New Manchester, Oakland and Weirton. Their efforts contained the fire and I am sure saved a lot of wildlife.—District Game Protector G. T. Szilvasi, Industry.

Take Your Choice

CUMBERLAND COUNTY—I took a collection of furbearing animal pelts to use for a wildlife presentation at the Mifflin Elementary School students. The students showed great interest in the pelts, particularly the young trappers, and many wanted to know their monetary value. After hearing some of the values, one little girl asked, "Are the furs more valuable if you put the leather on the other side?" I explained to her the leather comes along with the hair.—District Game Protector J. R. Beard, Shippensburg.

In Five Seconds . . .

HUNTINGDON COUNTY—I sure wish the inventors of aluminum beverage cans and paper disposable diapers would further their inventions so they would self-destruct after thoughtless litterbugs discard them over the countryside.—District Game Protector C. E. James, Orbisonia.



Just Homebodies

SCHUYLKILL COUNTY—On April 18, I received a telephone call from a Pine Grove resident stating he had discovered an unusual litter of nine young rabbits in a nest hidden under the shrubbery in front of their house. Upon examination I found that the doe apparently had two separate litters in the same nest, with three approximately five weeks old and six newborn babies all rooming together. It was four days before the three older rabbits left their family. — District Game Protector F. M. Spancake, Pine Grove.

Another Problem

ELK COUNTY—On April 12, I was contacted by Tom McKeon at Stackpole Lodge on Northfork, who informed me that a Canada goose had stopped in on the Trout Lake and that it had a piece of plastic from a beverage six pack over its head, pinning the bill down against its neck. When Tom tried to help the goose, it flew upstream. Several days later some men who work at Northfork found the goose, too weak to fly, and captured it. They took the plastic holder off its head and released it. — District Game Protector H. D. Harshbarger, Kersey.



Quittin' Time

LUZERNE COUNTY—Last hunting season Waterways Patrolman Manhart and I were called on to investigate some illegal deer shooting in the Kunkle area. We met the two informants and they showed us the illegal kills. On our return to the car, we heard an alarm ringing. We could not figure where the sound came from, until one of the informants stated that he kept an alarm clock on him set to ring when legal shooting hours ended that day. This might be a good idea for some of our late hunters to practice.—District Game Protector E. R. Gdosky, Dallas.

Don't Be the Target

CLEARFIELD COUNTY—In traveling around the countryside, I have noticed quite a few woodchuck hunters. Most of them are considering their own safety by wearing brightly colored clothing. A few still must not be aware of the danger of not wearing an orange cap and vest while hunting this time of year. If you chance upon one of these hunters, remind him of the danger he's placed himself in. I think you'll find he will appreciate it.—Land Manager J. F. Ramsey, DuBois.

Hard to Keep Up With

LYCOMING COUNTY—While assisting eight Webelo Cub Scouts from Pack 86 to fulfill one of the requirements to earn their citizenship activity badge, we decided to clean up the trash along a section of public road on State Game Lands 252. In approximately two hours along one mile of road, the boys had removed 650 pieces of trash, including beer cans and bottles, soft drink cans and bottles, broken glass, flower pots, empty TV dinner plates, various pieces of paper, cardboard and plastic, a full pack of chewing tobacco, old rags, pieces of metal and various other items too numerous to mention.—Land Manager D. E. Watson, Williamsport.



Living Dangerously

LANCASTER COUNTY—Lou Fornoff brought it to my attention that when some people complain of "chuck holes" in the roads here, that is exactly what they mean. Mr. Woodchuck has a hole in the center of one of our macadam roads, and whenever it is filled and repaired he goes to work and cleans it out again.—District Game Protector R. E. Gosnell, Millersville.

Move Over, Kipling!

The cold March winds blew
and the geese flew—and flew.
Late winter skies
Searched with anxious eyes,
Geese forming V's and honking their
thing
Telling all it'll soon be Spring.
Never saw so many winging their way
Old-timers round here were to say;
Mostly Canadas—with a few Blues
and Snows,
This year they really put on a local
show.
As they paused to rest on their north-
ern flight,
All those geese and some Swans so
white
Surely were a sight to behold
Promising an end to the winter's cold.
Now they're gone and April's here—
They've done their thing for another
year.
—District Game Protector R. Donahoe,
Danville.

Cooperation Gets Results

FULTON COUNTY—I was amused while watching several purple martins build their nests. One would come in with a stick, holding it by the middle, and it would not go into the hole. He would offer it to his neighbor, who'd grab it by the end and it would go in with no trouble. The holes are all the same size, but the system seems to add a bit of neighborliness to the colony.—District Game Protector C. E. Jarrett, McConnellsburg.

Nothing Biased About Us!

WARREN AND FOREST COUNTIES—Everyone should take a trip to another state at least once every six months and really take a good look around him. It makes a person appreciate home a lot more. Even with its strippings and other faults, Pennsylvania is pretty hard to beat.—Land Manager D. W. Gross, Marienville.

From the Mouths of Babes

BEDFORD COUNTY—While presenting Hunter Safety Courses in April, I heard the usual comments from the students—how Dad brought home an untagged deer, the semi-automatic 22 rifle Uncle Joe hunts with, or big brother bringing home six rabbits. Perhaps if some of the parents heard these remarks they would realize how much the kids depend on their elders to set proper examples for them to follow. Maybe then we would see better conservation practiced.—District Game Protector G. B. Thomas, Woodbury.



Chicken Little!

DAUPHIN COUNTY—I received a radio message of a fire on State Game Lands 210. Speeding to the scene I was confronted by Service Forester Jerry Magistrella. He informed me that someone had jumped the gun in reporting the fire. The smoke turned out to be lime being spread on a right-of-way on adjoining land. To say the least, I was relieved. But I keep wondering what that lime truck driver would have said if the fire fighters had continued their planned airplane water and retardant drop on the "fire."—Land Manager B. D. Jones, Elizabethtown.

Great Idea

HUNTINGDON COUNTY—Every American is or has been acquainted with the Pledge of Allegiance to the Flag, even though attitudes toward it vary. During Earth Week programs at several local elementary schools, I learned that no student had ever heard of the Conservation Pledge. After using it as a topic theme, I discovered this will no longer be true. Homeroom teachers in Alfarata and Smithfield Elementary Schools have adopted the Conservation Pledge, which will be used in conjunction with or alternated with the Pledge to the Flag.—District Game Protector R. D. Furry, Huntingdon.



Gee Whiz!

BERKS COUNTY—Upon coming to Berks County, one of the first things to greet me was a sign proclaiming "Berks County is Tops." I haven't found anything to disprove this claim and when I checked my first three woodchuck hunters they helped prove it. Two were using 300 Winchester Magnums ("To reach out for them") and one was using a 35 Remington with 200-grain bullets ("To put 'em down for keeps"). I guess Berks County is tops in the size and hardiness of their woodchucks.—District Game Protector K. M. Zinn, Bernville.

Scotia Range Benefits

CENTRE COUNTY—The response to the Game Commission's new Scotia Range has been very impressive. All users of the facility, from the smallest Cub Scout to various sportsmen, police and military groups, have praised the Commission for making these rifle and pistol ranges available to the public. Many stated they were very pleased the Game Commission was taking a strong stand in promoting the safe handling of firearms in the field and now promoting the same practices on the rifle range. It is a real joy to see a youngster shoot his first bullseye and increase his shooting ability with a little help from an experienced shooter. The more work such as this from the Game Commission and the sportsmen of Pennsylvania, the less worry we have about our young people getting into trouble.—District Game Protector J. L. Wiker, Pennsylvania Furnace.

And That's the Best Kind!

LACKAWANNA COUNTY—I recently overheard a conversation between a young woman and her male companion. The young lady told her friend that her father just purchased a new hunting dog. When asked what breed it was, she replied: "It's an English Settler!"—District Game Protector T. C. Wylie, Moscow.

Hard to Say

WASHINGTON COUNTY—While placing in storage the rabbit traps that the junior members of the Canonsburg Sportsmen's Club had used this year, a box of Anacin fell from one of the traps. Could this have been a new bait, or was it intended to ease the rabbit's headache after being caught?—District Game Protector F. D. King, Washington.



CONSERVATION NEWS



By Ted Godshall

Game Commission Buys Its 1,100,000th Acre

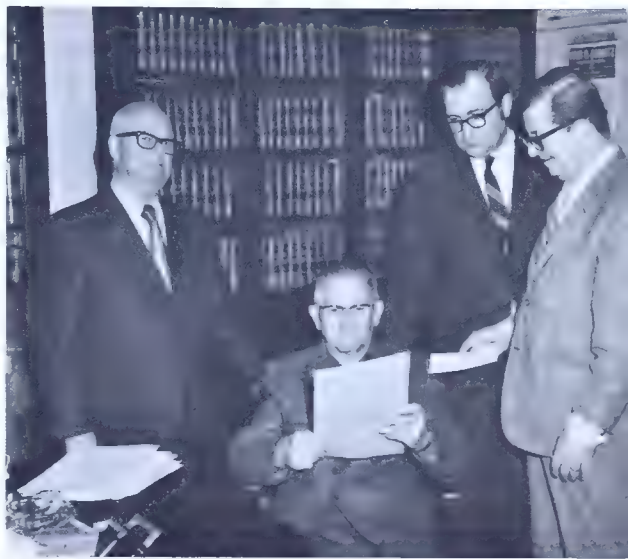
THE Pennsylvania Game Commission has completed the purchase of its 1,100,000th acre with monies from the Game Fund. The milestone was reached with the acquisition of three parcels of land totaling 1154.6 acres of the Henry Bloss estate in Lynn, Heidelberg and Washington Townships, Lehigh County. The acreage has been added to State Game Lands 217.

Tracts acquired in the historic purchase are located on the south side of Blue Mountain along the northern border of Lehigh County. These parcels of land stretch from the Lehigh Gap westward to near the Berks County line. Included in the acquisition is a portion of the Appalachian Trail. The area contains huntable populations of squirrels, rabbits, grouse, pheasants, raccoons and deer.

The Game Commission's program of purchasing land suitable for public hunting began with the acquisition of 6288 acres in Elk County in 1920. Since that time, more than \$13 million has been expended from the Game Fund for tracts in 65 counties. All of the tracts are open to public hunting.

Each acre has been purchased with monies derived from the sale of hunting licenses. Not one dime has been spent from taxpayers' funds to acquire these properties, although countless taxpayers who are sportsmen, conservationists, students, nature lovers, hikers, etc., but who are not hunters, are able to use and enjoy these State Game Lands.

Although development of State



PGC Photo by CIA Lowell Bittner

AT SETTLEMENT of Bloss estate were Linn Schantz, attorney for estate; Russell Balliet, accepting check; PGC attorney James Diefenderfer; and PGC real estate specialist John H. Byrne.

Game Lands is not being neglected, the Game Commission announced several years ago that it is concentrating its efforts on the acquisition of tracts while land can still be purchased at reasonable cost.

Almost one-sixth of the total funds spent for acquiring Game Lands in the past 50 years was expended during the 1969-70 fiscal year.

Pennsylvania's State Game Lands program is nationally recognized as the foremost of its kind. No other state has nearly as much public hunting land purchased and managed through funds contributed solely by hunters.

USGS Completes Survey of Metals in Streams

THE United States Geological Survey has released a report summarizing results of a nationwide reconnaissance of selected metals in the nation's surface waters—particularly sources of water for metropolitan areas.

Hydrologists of the Geological Survey, working in cooperation with the Bureau of Sport Fisheries and Wildlife, analyzed more than 720 water samples from urban and rural locations in all 50 states, Puerto Rico, and the District of Columbia for arsenic, cadmium, chromium, cobalt, lead, zinc and mercury.

Approximately 720 water samples were collected at three general types of locations:

- (1) from rivers and lakes that supply water to cities of more than 100,000 population or, in less urbanized states, to the largest city in the state;
- (2) from water courses downstream from major municipal and industrial complexes in each state; and
- (3) at the Geological Survey's hydrologic "benchmark" stations that were established in the mid-1950s to measure long-term trends in streamflow and water quality at sites far removed from man-made interferences.

According to the report, small amounts of the seven metals are widely distributed in the streams and lakes of the United States. Results of interest to Pennsylvanians are shown in the accompanying table.

*Pennsylvania Locations Where U. S.
Public Health Service Drinking Water
Standards Were Exceeded*

*Concentrations in Micrograms Per Liter,
or Parts Per Billion*

	50* Arsenic	10* Cadmium	50* Lead	5* Mercury
Lackawanna River at Old Forge ----		32		
Spring Brook Reservoir near Wilkes-Barre -----		27		
Tulpehocken Creek at Blue Marsh dam site near Reading -----	60			
West Branch Susquehanna River at Renovo -----			55	
Wolf Creek Reservoir near Potts- ville		11		

*Public Health Service standards.

22,000 Game Birds Released in State

About 22,000 game birds were released in the state this spring under the Pennsylvania Game Commission's stocking program. Ralph E. Britt, Game Commission propagation division chief, said the number of birds released this spring is some 2000 higher than one year ago.

Britt said that about 1900 wild turkeys of both sexes were liberated. Also released were about 7100 male ring-necked pheasants and approximately 13,000 hen pheasants. Under the Game Commission's stocking program, larger numbers of birds are released in the fall, both prior to and during the hunting seasons. In addition to turkeys and pheasants, the Commission will also release bobwhite quail this fall.

Biennial Report of the

PENNSYLVANIA GAME COMMISSION

*A Summary Covering the
Period from July 1, 1968,
Through June 30, 1970*

THE PROGRESS of the Game Commission of this biennium could be favorably reported in financial perspective as reflected on the report from the Comptroller's Office. This phase of the report is especially significant in view of the fact that license fees have not been increased since 1963. Other tangible barometers include an overall increase in the sale of hunting licenses and maintaining a hunter success standard in spite of a continual loss of wildlife habitat.

The total acreage of public hunting land purchased by the Commission since 1920 is 1,100,530 acres. During the biennium, 49,424 acres were added. Our land management program is continually being evaluated for the purpose of habitat improvement and our primary objective of increasing wildlife populations. Some of the general activities to meet this objective are timber sales, forest cuttings, planting of trees and shrubs, sharecropping and co-operation with private landowners and the construction of extensive wildlife areas and recreational projects.

Our law enforcement program for this period may be characterized by an aggressive pursuit of deliberate violations and special emphasis in an educational program. Field officers are now in full uniform and use Commission-marked automobiles. There was a substantial increase in the number of arrests and successful prosecutions.

The division of research plays a major role in our wildlife management program. This technical guidance toward solving problems in game management has been an asset in protecting and perpetuating the Commonwealth's wildlife resources. The major research studies now in progress include: 1. The White-tailed Deer Study, 2. Cottontail Rabbit Study, 3. Ring-necked Pheasant Study, 4. Wild Turkey Study, 5. Evaluation of Habitat Development for Wildlife, and 6. Hunter Harvest Inventory.

The division of minerals shows an income from oil and gas leases of \$101,589.17 for the period. Royalties from mining add another \$64,868.73 to Commission income. This financial return has been realized without detracting from our primary objective.

The division of propagation is responsible for our rabbit trapping and transfer program and the propagation of game birds for restocking. During the biennium the following numbers of game birds and animals were propagated, purchased, or trapped and released in the wild: ring-necked pheasants 249,291, cottontail rabbits 44,188, mallard ducks 16,939, bobwhite quail 18,281, and wild turkeys 12,576.

Pennsylvania GAME NEWS is our most effective information and education tool, now at a circulation high of over 219,000 copies. Our readers are represented in all 50 states and 33 foreign countries.

A voluntary hunter safety program was started in 1958. On September 1, 1969, this training became mandatory for first-time hunters under 16 years of age. The desired effect of this training is reflected in the reduction of non-fatal hunting accidents last year by 46.

The increased revenue of almost 19 percent for the biennium is the result of careful planning and completing programs that provide sufficient quantities of wild game for the resident and nonresident hunter.

Cash on hand at the end of the period shows some 17 percent increase, thereby enabling the Game Commission to maintain financial stability.

Capital assets are shown at cost. Market value of these assets presumably would be of substantially greater value.

	1968-70	1966-68
Cash on Hand—Beginning of Period	\$ 7,473,100.45	\$ 5,302,371.90
Receipts During Period	21,850,604.78	18,372,700.60
Total Cash Available	\$29,323,705.23	\$23,675,072.50
Expenditures During Period	20,606,811.08	16,201,972.05
Cash on Hand—End of Period	\$ 8,716,894.15	\$ 7,473,100.45
Detailed Expenditures:		
Land Management	\$10,067,447.01	\$ 6,993,988.25
Law Enforcement	4,204,241.68	3,189,624.12
Propagation	1,989,695.64	1,770,954.41
Administration	1,561,091.28	841,654.62
Other (a)	2,784,335.47	3,405,750.65
Total Expenditures	\$20,606,811.08	\$16,201,972.05

(a) Research, Training School, Employee Benefits, Information and Education, Appropriations to other State Departments, and Miscellaneous.

Capital Assets	\$13,217,897.25	\$10,885,864.44
----------------------	-----------------	-----------------

ATTEST:

Glenn L. Bowers
Executive Director



Hunting Seasons and Bag Limits Set

PENNSYLVANIA will again have a bear hunting season, antlerless deer license allocations will be reduced and turkey seasons will be longer under official 1971-72 hunting and trapping seasons and bag limits established by the Game Commission on Thursday, June 3.

A five-week archery deer season will open on Saturday, September 25; the six-week early small game season will start on Saturday, October 16; and the four-week general small game season will begin on Saturday, October 30.

A two-day bear season will be held on Monday and Tuesday, November 22 and 23; the two-week antlered deer season will open on Monday, November 29; and a two-day antlerless deer season will be held on Monday and Tuesday, December 13 and 14.

The winter small game and archery deer seasons will begin on December 27 and close on January 15.

Several other changes were also made from the 1970-71 seasonal setup. There will be no "spring" muskrat season, the mink season will be longer, the northcentral Pennsylvania area closed to archery deer hunters during the extended or winter season will be smaller in size, and the turkey season will be closed during the two-day bear season.

Field reports indicate there apparently were more bears this spring than a year ago. In 1970 there were indications of an apparent bear shortage in parts of their range in the northcentral region of the state.

Closure of the season on bears last year apparently has been a factor in the recovery of the bruin population. There has been a large increase in highway kills of bears and there are numerous damage complaints. It is hoped that a two-day season will allow some continued increase in the supply.

With isolated exceptions the overall deer population came through the

most recent winter in better shape than one year ago. Large harvests of the abundant whitetail herd in the late 1960s brought about a gradual reduction in the number of deer which were eating themselves out of house and home, and a more nearly stable situation is now developing.

In some counties the number of deer is down considerably from a few years ago, and antlerless deer license allocations have been decreased accordingly. Since the herd is more nearly in line with available winter food supplies, the Game Commission is able to reduce this year's number of antlerless licenses to 313,850 statewide, or 24,650 less than were allocated last year.

Since the number of antlerless licenses allocated controls the number of deer harvested, hunters should expect the 1971 harvest to be somewhat lower than the figure for 1970.

In some locations there will be far fewer deer than in recent years. However, by and large, further range deterioration will be halted by the presence of fewer whitetails, and some habitat recovery or improvement may now start taking place. If the range is permitted to improve, there might be a day at some point in the future where deer herd expansion could take place.

In the meantime, a more stable whitetail population must be maintained from a game management point of view. Continued control of the herd through antlerless seasons is a must for the whitetails to remain healthy and to develop maximum annual fawn production.

Yet, the Commission pointed out in establishing the antlerless season, there is no chance that deer will be wiped out in any area. Nor is it likely that the number of whitetails in any county will be far below the carrying capacity of the range.

An excellent production of wild turkeys was found in the state last year, yet a smaller-than-normal harvest was recorded by hunters last fall. Winter losses were minimal, and with normal hatching success the outlook for the 1971 hunting season is good.

For these reasons, a four-week season was established for turkeys in the northcentral part of the state, except that the turkey season will be closed during the two-day bear season, November 22 and 23, and a three-week turkey season was set up for the remainder of the state usually having a shorter season.

Also, a two-week spring gobbler season was established for 1972, opening May 6 and closing May 20. Four spring hunting seasons for adult and yearling gobblers produced ample evidence to show this highly popular hunting recreation is not detrimental

to the size or perpetuation of wild turkey populations. To increase the recreational opportunity and to assure a better chance that the peak of gobbling activity will be embraced in the period, a two-week season was approved.

For the coming year, the Commission established one long trapping season for muskrats and minks to enable sportsmen to take advantage of muskrat pelts in their prime and a larger mink population.

The northcentral Pennsylvania area closed to winter archery deer hunting was reduced in size, and will be bounded by Route 219 on the west, Interstate Route 80 and Route 220 on the south, Route 15 on the east, and New York State on the north.

Basically, other seasons and bag limits are unchanged from those of last year.

New Environmental Program at Penn State

Environmental Resource Management (ERM) has been added by the College of Agriculture at The Pennsylvania State University as a new 4-year undergraduate program of study. This major was established in an attempt to help untangle the nation's environmental problems by educating managers to deal with them.

Designed to give students special competence in dealing with land and water resources and the utilization of them for agriculture, forestry, wildlife, recreation, and aesthetic enjoyment, the ERM major includes 10 newly created courses. These course topics are: pollution of environmental systems; ecology of plant production; soil resources and land use; rural water resource management; legal aspects of resource management; resource systems analysis; case studies in ecosystem management; special studies; and a seminar in both the junior and senior years. The major emphasizes courses in the biological, physical, and social sciences which are combined with technical courses in agriculture.

The major is set up so students can transfer to the University Park campus from any of the Commonwealth campuses and enter the program as juniors if they have completed basic biology and chemistry courses. Or, students can enter the major as freshmen.

For more information on a curricular outline on the ERM major, write: Director of Resident Education, 207 Armsby Building, University Park, Pa. 16802.

They Get Around

Blue-winged teal banded in Maine have been shot in Florida, Puerto Rico, the French West Indies and the West Indies.

Pennsylvania Seasons and Bag Limits 1971-1972

The Pennsylvania Game Commission, in Harrisburg on June 3, 1971, established the following seasons and bag limits for resident game and furbearers for the 1971-1972 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on October 30 will be 9:00 a.m., D.S.T. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset except raccoons which may be hunted any hour and turkey gobblers (spring season) from one-half hour before sunrise until 10:00 a.m., D.S.T. Shooting hours for migratory birds will be announced later.

SMALL GAME

Daily Limit	Season Limit		DATES OF OPEN SEASONS	
			First Day	Last Day
6	30	Squirrels, Gray, Black and Fox (combined)	Oct. 16	Nov. 27 AND
2	10	Ruffed Grouse (not more than 10 in combined seasons) ..	Dec. 27	Jan. 15, 1972
		Wild Turkey—Counties, and parts of, listed below*	Oct. 16	Nov. 27 AND
		Dec. 27	Jan. 15, 1972
1	1	—Counties, and parts of, not listed below	Oct. 30	Nov. 27
		—Spring Gobbler Season (bearded birds only)	(Except Nov. 22 & 23)	
4	20	Rabbits, Cottontail (not more than 20 in combined seasons)	Oct. 30	Nov. 20
		May 6	May 20, 1972
2	8	Ring-necked Pheasants, males only	Oct. 30	Nov. 27 AND
4	20	Bobwhite Quail	Dec. 27	Jan. 15, 1972
2	4	Hares (Snowshoe Rabbits) or Varying Hares	Oct. 30	Nov. 27
Unlimited		Raccoons (hunting or trapping)	Oct. 30	Nov. 27
Unlimited		Woodchucks (Groundhogs)	Dec. 27	Jan. 1, 1972
Unlimited		Grackles	No close season	
Unlimited		Squirrels, Red	No close season	
			All months except	
			Oct. 1-15 incl.	

BIG GAME

1	1	Bear, over 1 year old, by individual or by hunting party of five or more	Nov. 22	Nov. 23
		Deer, Archery Season, any deer—Statewide	Sep. 25	Oct. 29 AND
		Closed in Counties, and parts of, listed below** ..	Dec. 27	Jan. 15, 1972
		Deer, Antlered, with 2 or more points to an antler or a spike 3 or more inches long	Nov. 29	Dec. 11
1	1	Deer, Antlered and Antlerless, with required antlerless license, buckshot only in Special Regulations Area listed below*** ..	Nov. 29	Dec. 11
		Deer, Antlerless—Statewide	Dec. 13 & Dec. 14 ONLY	
		—Counties, and parts of, listed below****	Dec. 13	Dec. 18

FURBEARERS

Unlimited		Skunks and Opossums	No close season	
Unlimited		Minks	Nov. 20	Jan. 30, 1972
Unlimited		Muskrats (traps only)	Nov. 20	Jan. 30, 1972
6	6	Beavers (traps only)—Counties of Susquehanna and Wayne	Feb. 5	Mar. 5, 1972
3	3	Beavers (traps only)—Remainder of State	Feb. 5	Mar. 5, 1972

NO OPEN SEASON—Hen Pheasants, Cub Bears, Elk, Otters, Hungarian Partridges, Sharp-tailed Grouse, Bobcat or Wildcat.

NO CLOSE SEASON—Chukar Partridges.

SPECIAL REGULATIONS

*Wild Turkey Season Oct. 30 to Nov. 27 (except closed Nov. 22 and 23), in the Counties of Cameron, Clinton, Elk, Lycoming, McKean, Potter, Sullivan, Tioga, Union, and in those parts of Warren and Forest Counties east of Route 62, and in that part of Venango County south and east of the Allegheny River and north and east of Route 322, and in those parts of Clarion and Jefferson Counties north of Route 322, that part of Clearfield County north of Route 322 from the County line east to Luthersburg, from Luthersburg to Grampian north and east of Route 219, from Grampian to Clearfield north of Route 879, from Clearfield to Philipsburg north of Route 322, that part of Centre County east of Route 322 north of Philipsburg and east of Route 350 south of Philipsburg, that part of Blair County east of Route 350, that part of Huntingdon County east of Route 350 north of Water Street and north of Route 22 east of Water Street, that part of Mifflin County north of Route 22 west of Lewistown and north of Route 522 east of Lewistown, that part of Snyder County north of Route 522, and those parts of Northumberland, Montour, Columbia, Luzerne,

Wyoming and Bradford Counties north and west of the North Branch of the Susquehanna River.

°°*Closed Extended Archery Deer Season Dec. 27 to Jan. 15* in the Counties of Cameron and Potter, and in those parts of McKean, Elk and Jefferson Counties east of Route 219, that part of Clearfield County north of Interstate Route 80, that part of Centre County north of Interstate Route 80 west of the Milesburg interchange and north of Route 220 east of the Milesburg interchange, that part of Clinton County north of Route 220, that part of Lycoming County north of Route 220 west of Williamsport and west of Route 15 north of Williamsport, and that part of Tioga County west of Route 15.

°°°*Special Regulations Area*—Only buckshot and bow and arrow may be used for taking deer. The use or possession of single projectile ammunition (except arrows) or the use or possession of rifles or handguns discharging a single projectile while hunting or trapping at any time is prohibited in that part of southeastern Pennsylvania bounded by the following: Beginning at Washington Crossing on the Delaware River, west on Route 532 to Legislative Route 09034 (Bristol Road), north on Legislative Route 09034 to Route 611 (Easton Road) at Warrington, south on Route 611 to Legislative Route 09033 (County Line Road), north on Legislative Route 09033 to Route 309 at Line Lexington, north on Route 309 to its junction with Route 113, southwest on Route 113 to the Schuylkill River, northwest along the Schuylkill River to Route 100 (south of Pottstown), and south on Route 100 to the Pennsylvania line.

°°°°*Antlerless Deer Season—Dec. 13 to Dec. 18* in the Counties of Chester, Delaware and Montgomery, and in that part of Berks County south of Route 22, and that part of Bucks County within the Special Regulations (Buckshot) Area.



STEWART L. UDALL, former Secretary of the Interior and now Consultant to Pennsylvania's Director of Environmental Resources, receives Pennsylvania State Fish & Game Protective Association's 1971 Gold Medal and certificate for conservation achievement from President George W. Schneck.



PGC WILDLIFE BIOLOGIST Jerry Wunz tells young conservationists how to identify a mature or immature turkey by its tail feathers. Meeting took place at Brokenstraw Fish & Game Club near Warren. Jim Smith, noted game caller, and Tom Groutage, biologist for the Bureau of Sports Fisheries and Wildlife, also were on program.

Doesn't Chew Much

The teeth of a 50-foot whale shark are only one-eighth of an inch long.

Game Commission Declares Two-Day Antlerless Deer Season—December 13 and 14

The Pennsylvania Game Commission, by resolution adopted at its meeting on June 3 in Harrisburg, declared a two-day statewide open season on antlerless deer.

Hunters participating in the antlerless deer season must possess an antlerless deer license for the county in which they are hunting in addition to the regular hunting license. Applications for antlerless deer licenses are available wherever hunting licenses are sold. Antlerless licenses are available from County Treasurers *ONLY. DO NOT MAIL APPLICATION TO PENNSYLVANIA GAME COMMISSION OR DEPARTMENT OF REVENUE, HARRISBURG.*

Only hunters who have not already harvested a white-tailed deer and who possess an antlerless license may legally harvest an antlerless deer. Antlerless deer are those animals with no visible antlers, regardless of sex.

In a specially designated area of southeastern Pennsylvania, the antlerless season extends from December 13-18.

In the Special Regulations (Buckshot) Area, antlerless deer may be taken during the regular statewide buck season if the hunter possesses an antlerless deer license.

County antlerless license allocations are as follows:

ANTLERLESS DEER PERMIT ALLOCATIONS

<i>County</i>	<i>County Seat</i>	<i>No. of Licenses</i>	<i>County</i>	<i>County Seat</i>	<i>No. of Licenses</i>
Adams	Gettysburg	2,900	Lackawanna	Scranton	4,200
Allegheny	Pittsburgh	4,150	Lancaster	Lancaster	2,550
Armstrong	Kittanning	4,900	Lawrence	New Castle	2,500
Beaver	Beaver	2,800	Lebanon	Lebanon	2,000
Bedford	Bedford	8,800	Lehigh	Allentown	1,550
Berks	Reading	4,950	Luzerne	Wilkes-Barre	7,450
Blair	Hollidaysburg	5,600	Lycoming	Williamsport	9,950
Bradford	Towanda	8,950	McKean	Smethport	7,100
Bucks	Doylestown	2,900	Mercer	Mercer	2,900
Butler	Butler	5,150	Mifflin	Lewistown	3,000
Cambria	Ebensburg	5,400	Monroe	Stroudsburg	6,450
Cameron	Emporium	1,900	Montgomery	Norristown	1,900
Carbon	Jim Thorpe	5,450	Montour	Danville	1,050
Centre	Bellefonte	9,000	Northampton	Easton	1,850
Chester	West Chester	3,000	Northumberland	Sunbury	2,700
Clarion	Clarion	5,000	Perry	New Bloomfield	6,850
Clearfield	Clearfield	8,450	Philadelphia	Philadelphia	---
Clinton	Lock Haven	5,000	Pike	Milford	3,000
Columbia	Bloomsburg	3,700	Potter	Coudersport	6,150
Crawford	Meadville	6,000	Schuylkill	Pottsville	7,000
Cumberland	Carlisle	2,800	Snyder	Middleburg	1,850
Dauphin	Harrisburg	3,150	Somerset	Somerset	6,050
Delaware	Media	300	Sullivan	Laporte	4,350
Elk	Ridgway	5,900	Susquehanna	Montrose	4,950
Erie	Erie	6,000	Tioga	Wellsboro	7,550
Fayette	Uniontown	4,450	Union	Lewistown	2,700
Forest	Tionesta	5,750	Venango	Franklin	8,450
Franklin	Chambersburg	4,100	Warren	Warren	6,900
Fulton	McConnellsburg	4,300	Washington	Washington	4,950
Greene	Waynesburg	2,200	Wayne	Honesdale	4,700
Huntingdon	Huntingdon	9,950	Westmoreland	Greensburg	5,600
Indiana	Indiana	5,750	Wyoming	Tunkhannock	3,200
Jefferson	Brookville	5,400	York	York	3,750
Juniata	Mifflintown	4,650			
				TOTAL	313,850



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

Team Effort by Expert Volunteers

A group of sportsmen in Pennsylvania who have made tremendous contributions to the shooting sports are the Washington County hunter safety instructors who operate out of Game Protector Frank King's district.

All volunteers traveling and teaching at their own expense, these expert instructors have held hunter safety sessions all over this southwestern Pennsylvania county, training and qualifying, to date, 2278 students under the Game Commission's standards for hunter safety.

Many Courses Conducted

The men who make up the Washington County instructors' group are Wilbur Shoup, Bill Reese, Bob Mills, Sam Kren, Joe Woinar, Mike Vosel, Sr., and Mike Vosel, Jr. They conducted courses this past year in Bridgeville, Burgettstown, McMurray, Colliers Township, Canonsburg, South Strabane, McDonald, Cecil, Washington, and Avella—just to name a few. In addition, accompanied by Game Protector King, the instructors made a special trip not long ago to the Ross Leffler School of Conservation to give the students there rigorous training in hunter safety.

Categories covered by the instructors in their training sessions include National Rifle Association safety rules, the nomenclature of rifles and shotguns, and bow handling.

To get across their safety message, these really dedicated volunteers use movies on what to look for while hunting and on the wearing of fluores-



THESE SEVEN Washington County hunter safety instructors, shown here speaking to trainees at Ross Leffler School of Conservation, have held HS sessions all over southwestern Pennsylvania, helping more than 2000 students qualify for hunting licenses.

cent orange. They also employ slides, diagrams, blown-up guns, and photos of what bullets will do when they hit certain objects to give their students a good basic understanding of the intricacies of firearms and firearms handling.

The Washington County instructors accord the utmost seriousness to hunter safety; to pass their intensive training, students must achieve a firm grasp of the course subjects and participate in the mandatory four hours of instruction in order to qualify for their hunter safety cards. We feel these Washington County instructors are to be congratulated on a job well done!



Set an Eco-Example

By Les Rountree

ONE OF THE other columnists whose words appear each month in *GAME NEWS* once told me to be very careful about being too positive. "Don't," he cautioned me, "ever back yourself into a written corner without leaving an escape hatch." Sonofagun if his words aren't coming true sooner than I thought they would. For instance, not too many months ago I extolled the virtues of using paper plates and other disposable items. Paper products are still okay in certain situations, but with trash disposal becoming more of a problem each year, my wife and I have started to wash a few more dishes on our camping trips.

I still use a lot of plastic camping equipment, but throw-away plastic containers have become taboo on my outings. Same holds true for no-return bottles and cans. If the container is not biodegradable or returnable, I look for a substitute that is. My problem was, I wasn't practicing what I preach. I'm still not in some cases, but I'm working on it!

Let's face it. We campers are on the defensive at this point in history. A lot of conservationists, protectionists and, yes, even hunters and fishermen who don't camp are taking some hard pokes at us. Some of them are pretty difficult to duck. There will certainly

not be less campers this year or less next year. The camping game is bound to keep on growing, and if we want our fun to remain the clean sport that it can be we've got to police our own ranks. We've got to play one-up-manship and out-ecology our critics. We need to maintain a good image and if possible make it even better.

This month I'd like to talk about some of the things we can do to improve that image among fellow campers and those who don't camp. With recreation vehicles becoming increasingly sophisticated each year, more and more of them are hitting the trail equipped with air conditioners mounted on top of the unit. This luxury item certainly does add to hot night comfort, but it can be most annoying to neighboring tenters. The monotonous drone of the air conditioner may not seem loud to you inside the camper, but to the tenter all snug in his sleeping bag it sure doesn't sound like any cricket chirping. If possible, try to park some distance away from the canvas campers. Noise is another form of pollution and it can affect our mental health.

Turnabout is fair play too. The tenter who likes to have a roaring fire each night shouldn't build one that approaches the burning of Rome in magnitude right beside a brand-new



PAPER PLATES AND CUPS too often become litter in the outdoors. This metal cooking kit includes 3 pots, 12-inch frying pan, coffee pot, 4 plates, 4 cups.

motor home. A hot fire doesn't have to be very close to the side of a painted unit to blister the finish, and if the flames get close to a freshly filled gas tank . . . that's all she wrote! Large fires are taboo for other reasons—they use up a resource (wood) and they pollute the air. So if you are a campfire lover . . . keep it small.

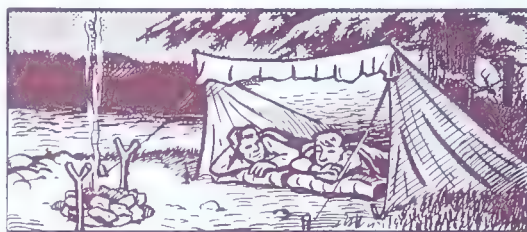
If the primitive or walk-in style of camping is your thing, don't carry anything in the pack that you can't carry back out. The thing to do some years back was bury the trash that was left behind. The preferable method now (and certainly the cleanest) is to carry cans and non-burnable waste *back* to your base of operations for disposal. A lot of this double hauling is eliminated by giving more thought to what you carry your food in. Lightweight plastic containers are okay since they don't add many ounces on the return trip. All perishable items can be carried in one of the tight sealing plastic cans or boxes that come in

practically any shape you can imagine. They are easy to wash, cannot be broken and last forever.

Canned goods really don't belong on a backpacking trip anyway. They weigh too much and, for esthetic reasons, a lean-to with nothing more in it than a sleeping bag doesn't seem to be the right place to open a can of spaghetti. Use dehydrated soups and the freeze-dried meals that have been perfected during the past few years. If you don't feel like carrying the raw materials for special on-the-trail meals, consider these packaged meals. Don't leave the envelope at your campsite, however. It's probably lined with aluminum foil and is not biodegradable . . . at least not for a long time.

The one luxury I always allow myself on a backpacking trip is fresh eggs. For the first morning's breakfast on a walking jaunt I place a few eggs carefully in a square plastic box and pack sawdust around them. This box goes on top of the pack and is treated reverently. Both sawdust and eggshells can be burned in the campfire.

I like to cook things in aluminum foil on camping trips and at home too. Foil saves a lot of pot and pan washing but it also creates a pile of nearly indestructible trash if it's not used over. Buy the heavy duty kind and use it as many times as you can; it's less expensive in the long run than the lighter weight version. It's not difficult to clean up. A hot soapy cloth and a dip in boiling water and most cooking stains come off. If you have a garden, you may want to try a tip that I recently read about in a newspaper garden column. According to the reporter, New Jersey farmers in the last few years have had some



success repelling aphids with strips of aluminum foil laid on the ground and around squash plants. No one seems to know why it works but it does. I wonder if it would also work around flowers? Just think—we could use up our old foil and eliminate spraying for aphids at the same time. Two environmental plusses!

Low Phosphates

Speaking of washing things, look for low phosphate products for home and camp use. Admitted, some are not quite as powerful as the high potency cleaners or enzyme-loaded products, but as campers we should set the example. My wife finds that when using her favorite non-phosphate, $\frac{1}{2}$ cup of plain old vinegar put in with the washing cycle helps (in our hard water) to remove the soap scum which is the result of some of these new environmental washday products. She has tried four or five of the new products and seems well satisfied with Sears Phosphate Free Laundry Detergent. For clean-up jobs on non-cooking items, take along a bottle of ammonia. Glass, metal and molded plastic surfaces clean up fast with ammonia and hot water. Diluted ammonia water causes no damage when tossed out on the surrounding vegetation . . . our grandmothers watered their gardens with it.

I must be particularly blessed with a strange type of body chemistry, for insects rarely bother me. Most people are not so fortunate and some have even stopped camping because of the very real agony they suffer when attacked by mosquitos, chiggers, ticks and the many flying and crawling creatures that frequent most camping areas. I'm not going to recommend any particular type of insect repellent or "bug dope," since I never use the stuff and wouldn't be able to tell if one kind worked or not.

Some oils and sprays now on the market are harmful to certain individuals, so before you decide to douse yourself liberally ask your family

physician about the contents of your chosen repellent. Read the label very carefully if you decide to buy one of the "bug bombs" that come in pressurized cans. Some of these products are not only deadly on bugs but also have an effect on human beings as well. A popular notion is that, since



CANNED ITEMS are heavy to carry and cans are hard to dispose of. Plastic containers should be substituted. They're light in weight, reusable.

you are outside, a liberal fogging of the camp area can't cause much damage and might help keep the bugs away. It usually doesn't and your neighbor in the next site might not appreciate your community spirit. Stay away from those popular pest strips of the last few years. To kill insects they must emit a poison which gets on anything near them . . . you, your children, your food and even your pets. It may be tough to live with the insects, but here are a few things you can do to avoid some of them:

- (1) Try to set up camp in a high dry area away from streams and ponds.
- (2) Keep your campsite clean.
- (3) Wear long-sleeved clothing.
- (4) Don't wear ankle socks if ticks are in the area. Make frequent inspections of your children's hair



SOME INSECT SPRAYS can cause unexpected problems. If you'd rather not use them, a headnet can protect you when mosquitoes are especially bad.

and ankles. If you do get ticked, don't make an attempt to pull it out. Put a drop of alcohol on it and it will back out.

- (5) Wear light-colored clothing (pastels). Many insects are attracted to bright colors.
- (6) Keep yourself clean and try to avoid the smelly stuff since insects are also attracted to after-shave lotions, perfumes and perspiration.

If you do get nailed by an insect the best possible first aid is to wash the area thoroughly with soap and water and then apply ice or cold water. Very broadly speaking there are no poisonous insects in Pennsylvania, but some people do react violently to the sting of some insects, particularly bees, wasps and hornets. If someone in your party has a really nasty encounter with a large number of these insects, seek medical help at once.

While television plays a large role in our daily lives I cannot imagine a more inappropriate place for a TV set than on a camping trip. Radios are slightly more acceptable on certain occasions if one doesn't attempt to entertain the entire campground. You may be amazed to discover that the guy in site number 12 does not share your enthusiasm for the sound of con-

temporary music. You may not care for his Offenbach either! The best thing to do is play your radio very softly or get one of the ear plug arrangements that fit most portables. As Eugene Slatick pointed out in the April issue of *GAME NEWS*, noise is a pollutant and campers should be ultra careful that they don't become offenders. For many people a camping trip means peace and quiet. Come to think of it I don't like loud camping trips either.

If you really want to get on the environmental bandwagon, think about switching your camper or family car from a gasoline burner to a propane powered vehicle. The cost is \$400 to \$500 and it's being done by an outfit in New Jersey. I'm sure there must be someone in Pennsylvania who can do as well. Over its life your car will, claim the adherents, emit 90 percent less air pollution than one powered by gasoline. Some auto engineers claim that propane autos are the only practical answer to exhaust emissions and that most cars will be burning propane in a few more years. But cleaner air isn't the only advantage. By switching to propane the driver can expect to drive 50,000 miles on a set of spark plugs and that's about five times as much mileage as most of us get now on a set of plugs. Fewer oil changes are also a plus for the propane fueled car. Test cars have been driven up to 20,000 miles before the oil began to look dirty, according to reports I've read.

In the camp stove department, propane is definitely cleaner than the white gas models. I certainly don't expect everyone to discard their gas burning stoves and replace them immediately, but if you are in the market for a new one—or your first one—you might consider propane.

As campers and citizens, we have to become more concerned about our environment. Since we're the only creature on this earth with the power to make it unlivable, we have to care. If we don't who will?



COMPETITION IS ALWAYS TOUGHEST at target No. 1 during PSAA tourney. Here are Larry Smith, Glen Rock; Ralph Shope, State College; Ron Beane, Camp Hill; and Champion George Slinzer, Luzerne.

Reaching Some . . .

Conclusions on Campus

By Keith C. Schuyler

Photos From the Author

WITHOUT stretching the imagination too far, special significance could be taken from the long row of white-clad figures and the torturing targets they faced on the campus of Pennsylvania State University last September, for the word "campus," which comes from Latin, simply means a field. But, for the ancient Romans, it was a special kind of field used for military exercises, public assemblies and other group activities.

Today, the word simply means the grounds of a school, particularly of a college or a university. Campus capers across the country have brought the word into new focus, and the connotation sometimes brings distressing headlines. For purposes of the 36th Annual Pennsylvania State Archery Association Championship Tournament on September 5-7, 1970, let us

just revert for a moment to the ancient connotation of a campus.

This university gathering was for a special purpose. A total of 235 persons had registered for this great event, and many of their friends and relatives followed them to the campus to swell the colorful ranks of deadly serious citizens. Although the bows and arrows gave some semblance of a military operation, the pursuit was one of peace conducted in an atmosphere of congeniality, fellowship and sportsmanship. Whereas the ancient Romans conducted such gatherings for the basic purpose of improving their skills in killing other people and each other, Pennsylvania's archers had no such thoughts in mind.

This in itself is one of the greatest tributes to archery today. Although the bow and the arrow were originally



GRACE KREMER, of Rydal, first ladies' crossbow champion of Pennsylvania. Crossbow targets are just half the size of longbow faces.

used for the sole purpose of killing, first for sustenance and later for spoils of war, its greatest technological advancement has been for purely peaceful pursuits. Nevertheless, this in no way lessened the excitement attendant to the assemblage on the university campus.

Since there is no requirement other than membership in the Pennsylvania State Archery Association to compete in the State tournaments, every level of achievement is recognized by a class in which each archer can find his place. Although this is as close as many have ever been to a school of higher learning, the impartial judgment of the score sheets determines only how well the individual can shoot the bow and arrow. As the ranks of archers stand to the line for the first whistle, blank targets and blank score cards stand ready to record the effort of each individual facing the days ahead.

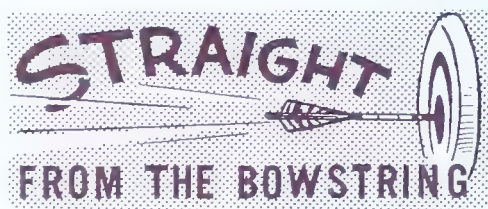
Initial stage fright or understandable nervousness may result in some bad releases up and down the line, even among the old-timers, for in the sport of archery this is one of the big ones. The pressure is on from the starting whistle. After a few ends, however, mental tension finds its level

and most of the pressure is in the muscles and in the bows that flex inexorably toward that last arrow. And the *tap, tap, tap* of silver shafts piercing the white, black, blue, red and gold, is the rhythm of the range that stutters its way to the last release.

By the end of the second day, General Chairman Clayton Shenk estimated that over 79,000 arrows had been released in competition. This did not include the additional thousands shot on Labor Day, the last day of the tournament, during the team shoot.

A first was registered at the 1970 tournament with the introduction of a crossbow division. There was only one entry, Grace Kremer, of Rydal, among the 20 Pennsylvania members of the National Crossbowmen of the U. S. A. This made Grace the first State Crossbow Ladies' Champion in the history of the Pennsylvania State Archery Association. On hand to shoot and lend technical advice were Mr. and Mrs. Richard D. Neill, of Cape May Court House, N. J. Dick Neill is president of the National Association of Crossbowmen. Mrs. Neill is National Women's Champion. It was admittedly a modest start for crossbow competition in the State event, but there was considerable interest in the lonely little group releasing arrows at the 24-inch target to the east of the main shooting line. Crossbow targets are just half the size of regular longbow faces. However, scores with the crossbow are normally comparable to those shot with conventional tackle.

Mr. Neill said that often those who express interest in the crossbow want the National Association to encourage states to accept them for hunting. It is currently recognized in only a handful



of states as a legal hunting arm. The National president said that his association steers away from such arguments, since its sole purpose is to promote competitive shooting with the ancient weapon. Crossbows are not permitted for hunting in Pennsylvania.

After the first day, the big news in the regular events is always at the first two targets on the senior men's shooting line. Although there is no specific assignment relative to targets on the first day, for the second day archers are assigned targets based on the first day's scores. Consequently, it is relatively certain that the top bow for the tournament will be shooting at one of the first two targets as the contest goes into the second day. There is normally little jockeying of position on the score cards after the opener. It is always quite possible, however, that the tournament winner may be shooting on the second target and find himself in time to take the top spot.

Slinzer or Shope?

However, at the 36th Annual, there was never much doubt that either George Slinzer, Luzerne, or Ralph Shope, State College, would claim first place. But, pushing hard were young Larry Smith, Glen Rock, and Ronald Beane, Camp Hill. When the tally was counted, although Slinzer had dropped 10 points to Shope on the American Round, his 1163 FITA and 848/900 round gave him 2781 and top score for the target tournament. Shope was only 16 points behind. Slinzer picked up 14 more points in the clout on the last day. This took him to the field tournament later at Seven Springs with a 3057. There he picked up 1596 points to become for the fifth time all-events champion of Pennsylvania with an aggregate score of 4653.

On the ladies' line, perennial winner Linda Myers was having her troubles with Ruth Howe, of Avondale. Linda, of York, had difficulty with the 900 Round, where Ruth emerged 23 points



LINDA MYERS and one of the targets that took her to the top at the PSAA target shoot last September. She had a 2639 for the tourney.

ahead. She picked up another 12 points at Linda's expense on the American Round. However, on the FITA Round, Linda posted a lovely 1154 to 1043 for Ruth and wrapped up the tournament with a total of 2639. Ruth was a much stronger second with her 2563 than even this score would indicate, because of her problems with the FITA Round.

Robert Holtby, Lansdale, set out with a comfortable 954 FITA intermediate score on the first day, to give him 18 points over Jimmy Powlus, Berwick, who was pushing. He picked up an additional 29 points in the 900 to ward off the threat of Powlus who came up with a 714 American to regain 20 lost points. The final total was 2413 for Holtby and 2386 for Powlus.

There was no stopping Keith Aunkst, Montgomery, who took top score in each junior event to win widely with 2742 over Michael Trongone, Lansdale, with 2674. Joe Reinhart, Jr., Pottstown, was close behind Trongone with 2670.

Little Tommy Stevenson, Norristown, led the cadets easily. Nancy McCullough, Sharpsville, led the Pennsylvania junior girls, although her score was topped by Kim Kemp, Long Island.

It should be mentioned that Diana Oden amassed enough points at State College that she went on to win at Seven Springs and emerged the all-events Pennsylvania ladies' champion. But that is another story.

Heavy gusts hampered shooters the first day, as the wind shifted often on the university campus. Gusts continued into the second day, although they were much more moderate. In addition, some rather nasty down-drafts came from the built-up area and a high bank behind the targets along men's row. It took some tricky guessing and minute sight maneuvering to counteract some of the problems created by air movement. Many an arrow on its way to gold slipped into the red.

Since there are no requirements other than membership in the Pennsylvania State Archery Association to participate in the State shoots, a wide variety of talent is present. Those on the way up and those just getting under way have an excellent oppor-

TOP LADIES POSING at target are Diana Oden, Ruffsedale; Ruth Rowe, Avondale; Linda Myers, York; and Helen Turnbull, of Pente, Ariz.



tunity to condition themselves for the big competition as they move up the shooting line over the years. With some, this is sometimes only a matter of one season. However, the archer who waits until his proficiency level gives him a chance at the championship before entering his first formal competition may eliminate his possibilities by waiting. Excitement, frustrations and normal stage fright have a distinct bearing on scores. So often an excellent archer will shoot poorly on the opening ends until he becomes acclimated to all conditions which surround such competition. Fortunately, an excellent spirit prevails up and down the shooting line, and an effort is made to enforce rules against any behavior which might upset those shooting. Nevertheless, preconditioning through formal competition and similar events can help set up those who are capable of competing for the big one.

Tough Competition

Those who clean up on the local club range are suddenly matched against those who regularly shoot as good or better scores than the hometown hero. This can be upsetting to someone who has been winning at home without much opposition. Furthermore, although the need to excel is a plus value, the fear of not doing so can create mental problems which are reflected in the final tally.

A rare incident occurred during the second afternoon when a target frame suddenly collapsed. The heavy butt fell forward onto the bristle of arrow shafts shot into it. Although it was small comfort to the archers who suffered damage to their arrows, the target was not one which would affect the final outcome of the meet.

Aside from strong and erratic breezes, the weather was generally good, as it usually is for the state shoots.

The centrally located site once again proved its many advantages for the event as a full field of archers vied



LADIES ON THE LINE AT Pennsylvania State Archery Association Target Tournament on Penn State campus.

for the medals available to amateurs. However, there was an excellent representation from other states and a scattering of professionals.

Men, ladies and youngsters proved once again that the desire to excel with the bow is shared by all members of many families. Probably the best known family group in the state is that of Ed Williams, since the excellent reputation acquired by his son John has encouraged the entire family to attend most of the major shoots.

Participants alone provided a large crowd, but there was a substantial following of spectators and relatives of those on the shooting line. As usual, excellent accommodations were made available in the dormitories of the university. This is a big help since many archers come from the four points of the state. The minimum need for lodging for the full time is two nights, Saturday and Sunday. It is considerable help if the archer can arrive on Friday and get a good night's sleep to face the targets after breakfast rather than after the long drive or flight from some distant point. Since this contest determines the top target shooters from the entire state, every advantage is a help when the whistle blows to release the first arrow.

Once again, for the most part, par-

ticipants honored the traditional all-white dress which is a respected part of the total picture.

Although a quick glance could place this assemblage anywhere on the greenswards of Medieval England, a close look reveals many differences. Most evident is the main reason for the tournament, the bow itself. The long horns and rods of stabilizers are quite evident up and down the shooting line. Many have compensators attached directly to the bow. Also quite in evidence are spotting scopes focused on individual targets so that archers may check their scores between each end of arrows.

Sights a Necessity

An even closer look reveals the many types of sights which have become an almost necessary item of tackle for the dedicated target archer. Also seen are levels, clickers, wind or lateral sight adjustments, strap or bone string releases, bow slings and additional refinements of shooting tabs, bracers and chest protectors.

In total it is a far cry from ancient archery, although few of the modifications are really new. Many of the so-called innovations are merely modern adaptations of ideas tried many years ago which were discarded until being refined for practical use.

As old as formalized archery itself, however, is the esprit de corps and the general good fellowship which pervades the tournaments. Frowns are few except after an arrow goes astray. The personal relationships tend toward the highest order.

In all, it's a great show.

A review of the 1970 tournament quickly answers additional questions which might arise in an overall look. Has target archery reached a pinnacle of excellence? Is interest being maintained? Are archers satisfied with general arrangements?

In answer to the first question, a comparison of some 1969 amateur scores provides a valid clue. George Slinzer won the target event in 1969 with a 2694 total, but he needed his 2781 to top the 1970 tourney as Ralph Shope registered a 2765, well above George's 1969 score. Janet Ashbaugh won in 1969 with 2613; Linda Myers posted a top of 2639 for 1970. There still seems to be room for even higher scores in the upper echelon. Diana Oden's 788 led Ruffsedale Archers in

the distaff department to top the Mechanicsburg girls who won in 1969 with 2419. Her score, augmented by the good shooting of Janet Smouse, LaRue Bruce and Linda Snyder, produced 2840. Bloomsburg Archers, led by Marlin Richart's 810, was somewhat under Pheasdale Archers' 3103 for the previous year. Richart teamed with Jimmy Powlus, Stan Williams and Reg Wright.

As to interest in the state target event, registration increased from 186 in 1969 to 235 in 1970. Such a jump augurs well for the future.

As to the question of individual satisfaction with the way things are going, possibly the answers to the first two questions provide the best clue. It is a fair bet that attendance at this year's target tournament of Pennsylvania State Archery Association will be the highest ever.

Following custom, the 37th Annual State Championship Target Shoot again will be held on the campus of Pennsylvania State University over the long Labor Day weekend.

Togetherness

Burrowing owls raise one brood each year, both parents sharing in the duties of hatching the eggs.

NATIONAL RIFLE ASSOCIATION directors Richard S. Cross and Dr. Franklin H. Wells, Congressman John P. Saylor, directors Robert S. Lichtenberger and Ernest H. Williamson at the annual meeting of the NRA in Washington, D. C. Lichtenberger is Deputy Executive Director of the Pennsylvania Game Commission.



Over Seventy-Five Years Old, the Venerable 30-30 Is Still the . . .

King of the Deer Rifle Cartridges

By Don Lewis
Photos by Helen Lewis



THOUGH THE 30-30 CARTRIDGE, standing, is the least powerful of any of the loads shown, it probably has accounted for more deer than all the others together.

THE HILLSIDE was steep and thick with underbrush. I had to literally pull myself to the top. Occasionally, I would stop and check the buck's tracks in hopes of finding some evidence that my hastily fired shot had scored. Other than a few bits of hair in the snow where I had fired, I had found nothing to build my hopes on. A feeling of dejection was coming all over me.

The buck had caught me by surprise, and I didn't see it was a legal deer until it entered some thick brush at the base of the hill. I watched, waited, and hoped for just one small opening that would provide a clear shot, but to no avail. The buck was moving uphill into even heavier brush. It paused behind a dense thicket of tangled limbs and grapevines, and I knew it was now or never. It was a tough shot, but I could see the shoulder of the buck, and I've always thought that it was poor aiming instead of the vegetation that caused

me to miss. The buck reared and disappeared up the hillside.

I was so out of breath when I reached the top that I had to sit down. I knew exactly the lay of the land, and my strategy was to get to the top which sloped downhill for half a mile to a worked-out strip mine job. I figured I could catch up with the buck among the dozens of mine cuts and spoil piles. I felt he wouldn't run too far, since it appeared I had just grazed the hair.

My short rest proved to be the smartest move I had made so far. Even while I was catching my breath, I was scanning the woods. I heard shots out ahead of me, but they sounded too far away unless the buck had stayed in high gear.

It was about 10 o'clock, and I had to grin a little when I saw that the buck had run smack over a cleaned out spot beside a stump where some hunter had been standing that morning. In fact, a cigarette butt lying on

top of the fresh snow wasn't even wet. The hunter must have left just minutes before the buck came along.

As I got up from the stump I was sitting on, I saw a movement far out in the woods. I didn't have binoculars, and I never use my scope to look at anything unless I know it's a game animal. I knelt behind the stump and waited. In seconds, I knew it was a deer and I took my first look through the 4X scope. The deer had its head down and was angling past me. It was another thirty seconds before I knew for sure it was a buck. All the time, it milled around in the heavy brush and I again was faced with the problem of a moving target and brush. One thing in my favor—I could take plenty of time, as the buck had a long ways to go to get by me. I made up my mind that I would take advantage of every second of it.

The buck was no more than a hundred yards from me, but in all that maze of limbs and undergrowth, I was having a tough time just trying to follow it, let alone find the opening I needed. Several times, I was tempted to fire, but I had made one mistake and didn't want to repeat it. I was afraid to drop the rifle to see if I could find some open space in the direction

DON WOLFE, of Worthington, works the lever of a M94 Winchester carbine, the first gun chambered for the 30-30 cartridge and the most popular sporting arm ever made.



the deer was headed. While pondering what to do, the buck decided the issue for me. It turned in my direction and stopped between two trees. It was far from a wide open shot—the scope was filled with plenty of ricochet-makers—but I had confidence that the 150-grain slug would get through. I froze the reticle on the buck's chest, squeezed the trigger, and it was all over.

Glad 30-30 Chosen

I flipped the empty out and stuffed it in my pocket, making a mental note to save it along with some other cases from a variety of good shots I had made. This I promptly forgot, as I moved around trying to get a better shot in case the deer did get up. The more I studied the situation, the more I thought how fortunate I was in not bringing along the 25-06 Improved as I had intended. The shot I had just made was not long, but I had no doubts that the fast 100-grain spitzer bullet from the 25-06 would have left me emptyhanded.

Satisfied that the buck was down to stay, I checked my rifle, slung it over my shoulder and went to find my deer. I'll have to admit that the rack was nothing to brag about even though the deer was quite large. Perhaps I could take some pride in the fact that this was the first deer I had ever taken with the ol' reliable 30-30.

I suppose back in the 1890s the gun buffs of that day stirred up quite a ruckus over the new Model 94 Winchester and the high velocity (for that time) 30-30 cartridge designed for it. Doubtless many fans of the 45-90, 45-70, 50-110, etc., predicted it would not last long enough to even get recognized, but I'm just as sure that many hunters and woodsmen saw the benefits in the trim Model 94 and its medium-powered 30-30 cartridge. However, I doubt if anyone, even the most avid admirer, ever dreamed that the 30-30 cartridge would survive the gaslight era, be moved from the saddle and buckboard to the more sophisti-

cated horseless carriage, survive two major wars, and still be an incredibly popular cartridge nearly a century later. Who would have thought that?

How does one explain the phenomenal tenacity of this unimpressive looking cartridge? How has it flourished during these decades while many of its contemporaries either fell by the wayside or just died long, lingering deaths. Instead of just lasting long enough to get some recognition, as some predicted, it became so popular that most of the other American gun manufacturers made rifles chambered for the 30-30, as well as some in Europe, where it is called the 7.62 x 51-R. It even appeared in Germany in the three-barrel guns or "drillings."

There is no use trying to claim it is the 30-30's power that gave it longevity. A heck of a lot of cartridges have come and gone that had an edge in ballistics. I can't even claim the 30-30 case was an ideal one to use for "wildcatting." I do have a 219 Donaldson Wasp that originally had its cases formed from the old 219 Zipper, and when they got hard to find I started with the 30-30, which was a bit more work but entirely practical using the excellent RCBS dies that Fred Huntington makes.

Speaking of handloading, the 30-30 case was never popular with the handloading society. Probably 99 percent of the 30-30 users are once-a-year hunters, and they stick mostly to factory fodder. From my own experiences as a custom handloader years ago, I know that only a relatively few 30-30 owners favor handmades.

When I decided to write an article on the 30-30, I spent a good bit of time thinking of a dynamic way of



RIFLES CURRENTLY made in 30-30 include Savage M170 pump, Marlin M336, Winchester M94, Remington M788 and Savage M340. All are fine hunting guns.

describing this cartridge. I even tried walking out to my target house and back, my hands folded piously behind me, but nothing brought me any closer to a solution. The more I thought, the more difficult it became. What can one say about a flat-nosed, medium-powered, unimpressive-looking cartridge that just won't quit? There's hardly any other 30-caliber cartridge that doesn't have more to offer, yet the 30-30's still tops on the list of deer rifle cartridges.

I don't want to sound dramatic, but the answer could be that the 30-30 is truly American. It was the first popular smokeless powder cartridge developed in North America. Also, it was first offered in a rifle that had the stamina and endurance to withstand the type of hard hunting that was common back at the turn of the century. In those days, a hunting rifle became an integral part of the hunter. Men spoke fondly of their favorite shotgun or deer rifle. Some of this kind of affection even existed when I was just a boy.





DON LEWIS tries the new Savage M170, finds its slide action fast for running shooting, believes it will be popular with hunters who use pump action smooth-bores.

There's no use in denying that 30-30 is synonymous with the Winchester Model 94. It was the cartridge designed for the 94, and they've been together all these years. I brought this up just to show how many veteran hunters feel about this rifle and its cartridge.

I remember one aged deer hunter years ago who referred to his M94 Winchester as "she." I can see him yet, taking the little carbine from a set of deer feet and gently wiping every metal part with an oily rag. Once in a great while, he would allow me to work the lever and lower the hammer while he related some exciting moment from his past. "She's been a good rifle," he would say. "She and I hooked up together back around 1902. Can't remember exactly what she cost me, but I think it was around \$25. Sure was money well spent. She's downed 29 bucks for me, why I recall once. . . ." And so it would go. To my young eyes and ears the rifle was everything he said it was, and his

yarns held me spellbound. On my way home, I would relive those fabulous shots he told about, only I was the hunter slamming shots out at a blistering clip from the mighty 30-30. Back then, I never thought of owning any deer rifle except the 94. The irony of it is, I've repaired a dozen or so, scoped as many, and zeroed in probably a hundred, but I've never owned one.

Possibly the one drawback, as far as reloading goes, is the smallness of the case. It's virtually impossible to improve a great deal on factory ballistics. As I stated earlier, the 30-30 is a medium-powered load with relatively low pressures. In fact, pressures should be held below 40,000 psi for the lever action Winchester or Marlin models. Another drawback is the design of the bullet. The 150- and 170-grain bullets were about all the handloader could work with. Due to the tubular magazines, flat or round nose bullets are almost a must, since recoil could cause a sharp pointed bullet to fire the cartridge ahead of it in the tubular magazine. Bullets also must be crimped in 30-30 reloads, or they will be pushed back into the case while being inserted in the magazine. All these things were nuisances in hand-loading the 30-30, but it can be done. I've loaded hundreds of rounds with good results, and I rarely experienced any problems with shells sticking in the chamber or not feeding properly, as some have complained of.

Some of the Rifles

Let's take a look at some of the rifles offered today for the 30-30. I've already talked about the 94 Winchester, but I think I should mention something about mounting a scope on one. Because this model ejects its empties straight upward, a scope must be offset to one side or the other. Most hunters choose the left side—it seems more natural somehow—but this means your face cannot firmly contact the stock while aiming. I prefer the scope offset to the right, which

permits solid face support for a right-handed shooter.

The Marlin 336 doesn't get the credit it deserves. It comes in two models, the 336C and 336T. The only difference is the 336T has a Western-style straight grip. It ejects to the side, which makes scope mounting easy. I suggest a good 2½X glass on this model. My experience with the 336 Marlin left no doubts that it's a well made rifle. Accuracy is exceptional. I'm not comparing it with chuck rifle accuracy, but I shot plenty of 2-inch groups at 100 yards. The 336 tips out at a little over seven pounds and measures 38½" overall. Marlin is proud of its solid breeching and Micro-Groove rifling, and I think they have a right to be.

The Remington 788

Remington offers the 30-30 advocate a very nice rifle with the Model 788. This is a clip fed bolt action that ought to touch the heart strings of the mobile hunter. Most of the shooting I've done with the 788 has been in the 22-250 and 6mm Remington calibers. The results that I got with these, along with one or two 30-30s I shot, led me to believe that, in this day and age, it's a lot of rifle for less than \$90.

Harrington & Richardson offers the Model 158 "Topper," a single shot 30-30 with 22-inch barrel. You can also get an interchangeable 26-inch shotgun barrel in 20 gauge with modified choke. I've shot a half dozen or so of these, and can say the Topper has several nice features. One is quick takedown, along with side lever operation, automatic shell ejection, and self-adjusting barrel lock. It seems to me that this is an ideal combination for the young hunter who doesn't want to get too involved financially when he's starting out.

Savage produces the 30-30 in several models. The Model 340 bolt action has been around for a good while. It features a detachable clip. My only complaint against the 340 is the side mount scope base on the one I've



FLANKED BY 30-06 and 270, 30-30 looks somewhat unimpressive, but generations of whitetail hunters have found it does all they want in the woods.

used. Although the scope was centered above the action, it never appealed to me as a rifle meant to be scoped. I can't honestly say it's one of the leading rifles in the accuracy column, but I've always found the 340 to shoot well within the requirements for big game hunting. Here again, the 340 is a rifle that never carried a large price tag, and naturally it lacks some of the refinements the more expensive outfits have, but this doesn't mean that it isn't a fine deer rifle.

30-30 Now in Slide Action

The 30-30 cartridge has now entered the world of the pump gun. Savage recently introduced the Model 170 pump, and it could be the very rifle a good many hunters are looking for, especially left-handed shooters or those who use slide action shotguns and want to use a similar rifle.

I was quite surprised by the neatness of this model, and it carries a lot of strength. I'm told the receiver is machined from nearly nine pounds of solid tempered steel and that all locking surfaces between receiver and bolt are heat hardened. Savage says that it

reduced friction in the action by an automatic vibrating process which is Savage's answer to what hand-honing is meant to do.

One feature that I like is the short stroke of the action—only 3¾ inches. I'm never impressed with pump or lever action triggers, but not too much can be expected from that type of action trigger-wise. I really haven't put the 170 through the paces yet, but from what I have done, I see no reason why it won't be around for a long time.

Not Just for Beginners

There is one thing about the 30-30 cartridge that I would like to point out emphatically. The 30-30 is not just a beginner's cartridge. I've heard this statement tossed around a good bit by hunters who should know better. The emphasis today is on power, distance and speed. Apparently we're not satisfied any longer to do good shooting. Something seems lacking if the distance isn't just short of 400 yards, and the deer isn't bowled over like a mouse hit with a golf driver. Sometimes I think we have gone too far with this philosophy. Sure, deer hunting today is far from what it used

to be, but it still should be the hunter's skill that contributes most toward success. The 30-30 should never be thought of as a cartridge to graduate from. Oddly enough, it could just be the opposite after a person has become a seasoned hunter. Implanting the belief in a young hunter's mind that he should start with the "simple" 30-30, but then must go to one of the powerhouses to become a successful deer hunter certainly is doing him an injustice.

The 30-30 really doesn't need all this adoration. Its record loudly and clearly states that it has done a terrific job for more than 75 years. The 30-30 has more deer to its credit than any two other calibers I know of, and this alone should be sufficient to prove that it is *the* deer rifle cartridge among deer rifle cartridges.

Perhaps I did not successfully answer the question as to why the 30-30 cartridge still remains popular in this modern age. Perhaps there is no one answer. I have a hunch that gunwriters in the 21st Century will be as far from the answer as I am, and they will have no alternative but to repeat after me that the 30-30 cartridge is simply the king of deer rifle cartridges.

Looking Backward . . .

" . . . Deer hunting in the winter was a common business. Much of the meat was sometimes lost. The hunter, if alone and far from home, would shoulder the more valuable part—hams and skin—and leave the rest for the wolves; or he would hang it to a sapling or a large limb of a tree, which had been bent down for the purpose, and which, springing back, would raise the meat beyond the reach of the wolves. Having delivered his first load at the cabin, he would return, conducted by his tracks in the snow, and bring home the remainder. The opossum, raccoon, the rabbit and the squirrel were also a part of the pioneer's fare. To the variety of meats enumerated, may be added several of the feathered tribes, as pigeons, ducks, wild turkeys, partridges and several others. The forks of the Mahoning was in early days, the favorite roosting place of thousands of wild turkeys and other birds. . . ."

J. A. Caldwell, "History of Indiana County, Pennsylvania," p. 160, Newark, Ohio, 1880.

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS	<i>Executive Director</i>
ROBERT S. LICHTENBERGER	<i>Deputy Executive Director</i>
EDWARD T. DURKIN	<i>Comptroller</i>
Division of Administration	
DANIEL H. FACKLER	<i>Chief</i>
Division of Research	
DALE E. SHEFFER	<i>Chief</i>
Division of Land Management	
HARVEY A. ROBERTS	<i>Chief</i>
Division of Law Enforcement	
JAMES A. BROWN	<i>Chief</i>
Division of Minerals	
JOHN B. SEDAM	<i>Chief</i>
Division of Propagation	
RALPH E. BRITT	<i>Chief</i>
Division of Information and Education	
ROY W. TREXLER	<i>Chief</i>

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188
Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.
SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.
Phone: A.C. 412 238-9523 or 238-9524
Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.
NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641
Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.
SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.
Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.
NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.
Phone: A.C. 717 675-1143 or 675-1144
Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.
SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.
Phone: A.C. 215 926-6071
Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473.
Phone: A.C. 215 287-8151
WESTERN GAME FARM—G. Russell Enlow, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212
LOYALSOCK GAME FARM—Jack N. Anderson, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500
STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252
SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223.
Phone: A.C. 814 275-2515
STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

HOWARD NURSERY

SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brockway 15824. Phone: A.C. 814 265-0456

Conservation Bill of Rights

The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people.

The above amendment to the Constitution of Pennsylvania was unanimously approved by both houses of the State Legislature in 1970 and 1971, and on primary election day, Tuesday, May 18, 1971, was approved by the Pennsylvania electorate.

38.34
1.6
vol 4/2
No. 8 c. 17

PENNSYLVANIA GAME NEWS

AUGUST, 1971

25 CENTS



Published Monthly by the
PENNSYLVANIA GAME
COMMISSION

COMMONWEALTH OF
PENNSYLVANIA

Milton J. Shapp
Governor



COMMISSION MEMBERS

Edwin J. Brooks, President
Lansdale
Andrew C. Long, Vice-President
Shamokin
H. L. Buchanan, Secretary
Franklin
James A. Thompson
Pittsburgh
Loring H. Cramer
East Stroudsburg
Frederick M. Simpson
Huntingdon
Robert E. Fasnacht
Ephrata
Marshall E. Jetty
Brockway



Glenn L. Bowers
Executive Director



PENNSYLVANIA
GAME NEWS

Robert S. Bell
Editor
R. Theodore Godshall
Associate Editor
John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
Where the Wildcat Screamed	2
By Don Neal	
The Ecosystem in Wildlife Conservation	7
By Donald S. Heintzelman	
Penn State's Winningest Team!	12
By Mort Levy	
How to Find Grouse Without Fail	14
By Byron W. Dalrymple	
Frustrations and Rewards	21
By W. W. Britton	
The Box Huckleberry	24
By David R. Thompson	
Prospecting for Fur	27
By Ray Beck	

NEWS

Field Notes	34
Conservation News	39
By Ted Godshall	
Hunter Safety Education	42
By John C. Behel	

COLUMNS

A Naturalists' View of Wildlife (The Timber Rattlesnake)	43
By Leonard Lee Rue, III	
Camping More . . . Enjoying It Less? (Camping)	48
By Les Rountree	
Seven Springs (Archery)	53
By Keith C. Schuyler	
Little Poison—the 17-Caliber (Guns)	59
By Don Lewis	

COVER PAINTING BY NED SMITH

Most Pennsylvanians think of deer only in December, yet even now these impressive animals are carrying out their daily activities in almost every patch of woods in the state. It is the buck's antlers which induce countless hunters to take the field. Last year's set was shed in late winter and this year's appeared only as small bumps in May. Yet now, only several months later, they have reached almost full size. Though still in the velvet—which causes the buck to move very carefully to prevent injury to them—they will be rubbed clean in a month or so, prior to the rutting season. Many persons still believe the number of points is an indication of the deer's age, but this has long been disproved.

Published MONTHLY by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$2.00 per year; \$5 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved. **NOTICE:** Subscriptions received and processed by the last day of each month will begin with the second month following.

Letter to the Editor . . .

friends of animals, inc.

11 West 60th Street, New York, N.Y. 10023

Circle 7-8120

June 11, 1971

Bob Bell, Editorial Writer
Pennsylvania Game Commission "News"
P. O. Box 1567
Harrisburg, Pa. 17120

We certainly endorse the headline of your June editorial, "The Problem Is People." Admit your lust to kill and stop posing as wildlife's benefactor.

You insist on your paranoid stance even when you have been stripped...as witness your reaction to the New Jersey hunt stopped by a court injunction last December. You write: "What matter that as a consequence a number of deer... spent months starving to death so they could rot in their swamp?"

It didn't happen that way. The Hackensack Sunday Record of March 21, 1971, said: "North Jersey deer came through the winter in pretty good shape this year. They started winter with a good supply of fat because of the abundance of acorns last fall, and the ice storms knocked down enough branches with tender buds to keep the deer in better condition than they were during the previous winter."

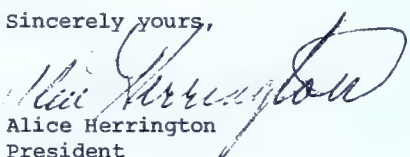
The reporter was Rod Hunter. Remember Rod? He was the focus of our "the only herd that needs trimming is the herd of hunters" letter.

You decry Walt Disney portrayals of wildlife - and yet this is the very technique you use. Your National Wildlife Federation (better known as "Assassins Unlimited") entices children with cuddly drawings of Bruno, Bambi, and Thumper in its magazine, Ranger Rick - except that the Ranger, unlike Disney, instructs that the noble hunter keeps Bruno healthy by killing him. A dire lesson in schizophrenia.

You love to kill, but danger for you - that's a no no. You chastize Martha Orbach for joy in learning that hunters mistake one another for deer. We think she could go farther; such "trimming" should not be left to chance. If we had a law to allow free killing of any animal bearing a lethal weapon, we'd certainly separate the men from the boys. After all, you risk nothing from Thumper or Bambi or any other of "Ranger Rick's" victims.

Let's tell it like it is: Hunters are not only paranoid -- they are miserable cowards.

Sincerely yours,


Alice Herrington
President

I thought GAME NEWS readers would be interested in the above letter, published with Mrs. Herrington's permission, since her remarks are of concern to that group--hunters--who make up most of our subscribers. Anyone who wishes to comment, pro or con, may write to Mrs. Herrington at the address shown on her letterhead.--BOB BELL



Where the Wildcat Screamed

By Don Neal

NO AREA in Pennsylvania offers today's hunter a better opportunity to enjoy his sport than that section of land in the northcentral region encompassing the broad expanse of mountains, valleys and sweeping plateaus once known as the Wildcat Territory. Composed of huge tracts of publicly-owned lands and many private holdings that are unrestricted to public use, the gunner can enjoy a freedom of movement not usually found in the more urbanized communities.

Yet this freedom of movement is but one of the many values that attracts thousands of transient hunters to the territory each year. Overall, I feel it ranks as the outstanding game producing section of the state. Deer, bear, turkey and squirrel populate its extended wilderness expanses, and concentrations of ruffed grouse are not uncommon along its wooded ridges or on its high plateaus. It is a land seemingly dedicated to the preservation of those species of wildlife that inhabit its forests.

Seemingly, too, it has been a land so dedicated for many centuries. Before the coming of the white man to this high hill country that spawns the mighty Allegheny, the tumbling Genesee and brawling Pine Creek, its mountainous terrain was the favorite hunting ground of the roving Senecas, and this fierce Indian nation was quick to take to the warpath to defend its rights against trespassing hunting parties of other tribes. Later, throughout the 1700s, the warlike Senecas were as quick to move against the occasional white hunter or fur trader who invaded the territory. For a hundred years after the sweep of western migration had passed to both the north and south of it, the tenacious Senecas held the territory inviolate,

and those who wished to profit on its bounty could but establish themselves on its very outskirts.

The French established themselves at Niagara and moved out from this location to acquire the furs that found their way down the Genesee. British and Dutch traders based at Albany approached it from the east. Colonists from Philadelphia poled their canoes and keel boats up the Susquehanna to the mouth of Pine Creek to build a trading post where guns and rum were exchanged for the prime pelts and hides that the Indians brought south. In the mid-1700s, Jacob Tome, a professional hunter who rafted meats and hides to the villages along the Susquehanna, ascended Pine Creek with his family to Slate Run, thus being the first white to penetrate so far into the Seneca territory. About the same time, George Crohan, king of the fur traders, moved up the Allegheny from a warehouse he had established at the forks of the Allegheny and Monongahela Rivers and built a fur trading post at Buckaloons (Warren County) at the western extreme of the Seneca country. The more daring among the early fur traders made occasional forays into the restricted territory; some returned.

Treaty with Senecas

When the land treaty of 1784 was negotiated with the Senecas at Big Tree, implying that at last a breakthrough had been made in Seneca vigilance, hunters, traders and settlers became bolder. However, they soon learned that the Indians still prized their favored hunting grounds and were as willing as ever to defend their rights. It wasn't until 1794, when the great Chief Cornplanter renegotiated at the Council of Cassadaga, that ownership of the territory was finally

vested in the State of Pennsylvania.

This opening of the Indian country brought a flood of professional hunters, traders and settlers to climb the Tiadaghton Trail to claim the lush lands of the Pine Creek valley, hunt the virgin forests that lay at the headwaters, or cross the high divide and descend the Allegheny River. Jacob Tome, accompanied by his son Philip and some hired help, moved out from Slate Run to explore the plateau wilderness that lay between the headwaters of Kettle Creek and the Allegheny. They found large herds of elk there, a consequence that led to Jacob Tome being the first man to capture a bull elk and bring it out of the forest on the hoof.

Panthers and wolves also were plentiful, according to the later accounts of Philip Tome in his book *Thirty Years a Hunter*, and the hunter of that early day penetrated the territory's wilderness at risk of his life.



JACOB TOME and his son Philip explored the plateau wilderness between the headwaters of Kettle Creek and the Allegheny. They found large herds of elk there.

While the Tomes were pushing into the Kettle Creek country, others including Elisha Morgan and Lewis ("Beartrap") McDonald were scouting the high ridges and deep valleys north of the Allegheny and southwest of the Genesee.

As the valleys of the Pine and Allegheny were cleared and settled, civilization cut a faltering path through the heart of the former hunting grounds. Old Indian trails and a few new roads provided access to the now-safe territory, and villages grew up at convenient locations. But to both sides of this scattering of settlements and clearings still lay wide expanses of wilderness, rough terrain of high mountains and deep, dark valleys, where game and furbearers were as plentiful as ever. Both Indian and white man hunted and trapped these areas and all profited from the increasing demand for the meat and furs they brought to market.

Fortunes in Pine

But the profit from meat and furs was not enough. Men soon learned that by cutting the towering white pine forests of the territory and rafting them to market down the Pine or Allegheny, great fortunes could be accumulated. Crews of log-choppers moved into the forests, strong-hearted men rafted the logs down the rivers, and the settlements prospered. With alarming swiftness the forests dwindled and the population grew. No longer was the abundance of game a factor in the lives of those who inhabited the countryside.

At this early date the territory, the former hunting ground of the Senecas, had no formal title or definite boundaries. It was not until the early 1800s that such developments came about when Hiram Payne, a McKean County editor representing the counties of northcentral Pennsylvania, at a caucus in Harrisburg became agitated and bellowed out, "Remember, I represent more territory — more bears, more wolves, more porcupines, and more

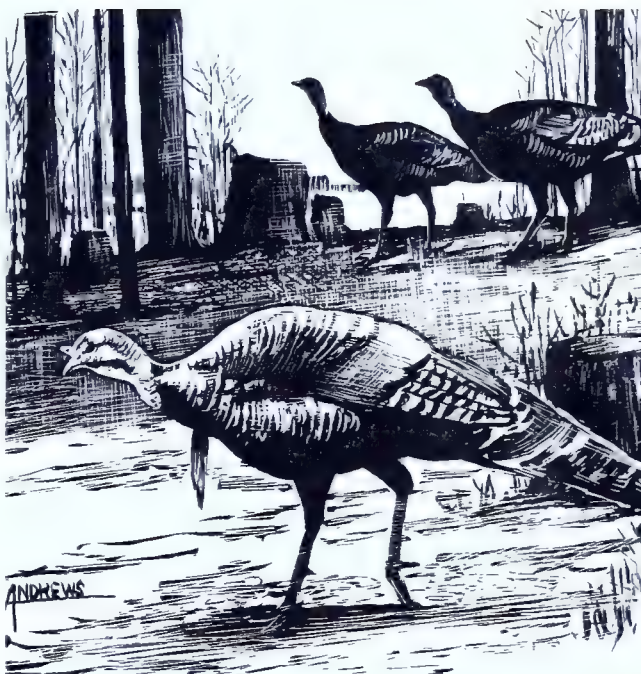
wildcats—than any five men in this assembly!”

From then on lands within the boundaries of the concerned counties—Warren, McKean, Potter, Tioga, Lycoming, Clinton, Cameron, Elk, Clearfield, and Forest—became known throughout other sections of the state as the “Wildcat Territory.” Lumbermen from the district traveling down the Susquehanna or the Allegheny were known as “Wildcatters,” and a regiment of considerable Civil War fame, made up of woodchoppers and mountain farmers carrying their own Long Rifles, was recruited from the territory to answer President Lincoln’s first call to arms in the war between the states. Quite naturally it was known as the “Wildcat Regiment.”

Timbering

Timbering of the widespread forests of the territory was the chief occupation of its inhabitants after the war, and it continued this status well into the early 1900s. In fact, the forested area of the wildcat’s domain was so extensive that as late as the 1920s some pockets of virgin timber still were being cut by large lumber firms. However, rafting the logs to market has long since been discontinued and the brawling, devil-may-care wildcat dressed in his jaunty coonskin cap, red-checked woolen shirt and high leather boots no longer patronized the saloons of Williamsport, Pittsburgh, or other downriver lumber ports. In short, the turn of the century had brought an end to the great lumber boom in the territory and its millions of acres lay covered with slash-heaps or the brush stage growth of regeneration. And with the habitat so depleted, wildlife of the area was reduced to an all-time low.

Yet it was these millions of depleted acres that contributed most to the eventual revival of game species on the lands of the territory once the start had been made. The brush stage regeneration growth, which after a time covered even the slashed and



THE FAST-MATURING forests of the territory offer ideal habitat conditions for wild turkey. Their number grows each year.

burned areas, furnished ideal cover for small game. And later, when a sparse deer herd had been improved by stocking operations of the Pennsylvania Game Commission, this regenerative growth furnished an abundance of forage that allowed a mere handful of deer to thrive and multiply into the vast herds that were exclusive to the north-tier counties back in the 1930s.

To appreciate the vastness of the deer herds then it is only necessary to recall the hordes of hunters that invaded the towns of the deer country—Clearfield, Emporium, Renova, Jersey Shore, Wellsboro, Galeton, Coudersport, Kane, Warren and others—and remember that a good percentage of them took home trophies. So great was the influx of hunters for the opening day in these towns that one was lucky to find a place to sleep in a barn or a place to eat in a beanery. It was commonly believed by these deer hunters that a fat buck with a well-developed rack stood behind each

bush—and it was amazing how often this proved to be a fact.

However, since the '30s, the time has come when the regenerative growth has grown to sizable second-growth timber and conditions have changed. The lush forage of the brush stage has disappeared and the deer herd of the north-tier mountains has been reduced to a more acceptable level. And while it may seem that deer hunting at present isn't what it was back in "the good old days" (nothing is ever as good as we remember it from the days of our youth!) it is still the best to be found in the state. A quick look at the deer-kill report of the Game Commission will convince even the most skeptical that the Wildcat counties are the top producers.

But then, they are the top producers in other species of game, too. For instance, turkeys. The fast-maturing forests of the territory offer ideal habitat conditions for wild turkey. With each passing year, as the timber grows taller and is more capable of provid-

ing the needed mast, the flocks of turkey increase. Field reports indicate that all of the Wildcat counties host heavy populations of turkey, and there is every indication that even further increases can be expected in the future.

Yes, the chances of a successful hunt for both large and small game in the wide open spaces of the Wildcat Territory are excellent. On its high ridges and sweeping plateaus or in its isolated valleys, the trophies once sought by hunting parties of Senecas are as plentiful as one could expect them to be in the advancing urbanization of the Space Age. Deer graze in the mountain meadows, bear den on the rocky slopes, turkeys peck their way through the wild cherry groves, squirrels play in the oak trees, and far off a grouse drums on a hollow log. This far-flung land of the wooded mountains, so open to the footsteps of the willing, so steeped in historic nostalgia, so rich with natural beauty, is truly a hunter's paradise, an outdoor wonderland.

Attention Dove Hunters

The Pennsylvania Game Commission and the Penn State Wildlife Research Unit are conducting research on doves in southeastern Pennsylvania. A vital part of this study includes a wing survey to be conducted during the upcoming season. Wings from harvested doves will be clipped and sent to a centralized point where they will be examined for much useful information.

The study area has no definite boundaries, but includes roughly that land east of U. S. Route 81 and south of U. S. Route 78. Any sportsman planning to hunt doves within or near the area described can participate in the study by sending his name and address to: Pennsylvania Cooperative Wildlife Research Unit, 113 Ferguson Building, University Park, Pa. 16802; or to Study Coordinator Lou Hoffman, 731 North George Street, York, Pa. 17404.

Your help will be greatly appreciated. The survey results will be sent to all those participating.

All Part of the Life Cycle

The female black fly dives into a stream to lay her eggs, attaching them to a submerged stone in swift water. A single stone may bear hundreds of little egg patches containing from 300 to 500 eggs.

The Ecosystem in Wildlife Conservation

By Donald S. Heintzelman

**Curator of Ornithology
New Jersey State Museum**

WE HEAR a great deal these days about ecology and the environmental crisis, but I'll bet that relatively few sportsmen understand the vital role which the ecosystem plays in wildlife conservation. To begin, the term "ecosystem" is nothing more than a shorthand way of saying ecological system. In terms of wildlife conservation, this means that *all* of the living plants and animals, and their nonliving environment, interact with and upon each other. As sportsmen, you naturally are primarily interested in game species. But without the presence and preservation of all the non-game animals, to say nothing of the plants, with which game animals interact, no game species could long survive.

To help in their studies, ecologists generally classify ecosystems into fairly easily recognized types—forests, old fields, meadows, lakes, ponds, streams, rivers, etc. Regardless of the particular classification of an ecosystem, each contains four basic components: (1) organic and inorganic compounds found in the environment, (2) producer organisms, particularly shrubs and trees in forests, grasses in old fields, and various types of submerged and emergent vegetation in aquatic habitats, (3) consumer organisms, including game and non-game species, and (4) decomposing organisms such as bacteria and fungi which assist in the vital breakdown process by which dead plants and animals release simplified substances back into the ecosystem for reuse in the continuous cycle of life.

Let's look more closely at each of



MAIDENHAIR SPLEENWORT, a common "producer organism," may seem unimportant in itself, but it has a role in the overall scheme of things.

these four basic ecosystem components. Why are they important to wildlife conservation? How can they affect your chances of success as a sportsman? Why should you be as concerned about the welfare and survival of non-game species as you are about game animals? These are important questions which are being asked with increasing regularity these days by citizens concerned with the quality of our environment. To understand these questions, and many more, is to become an ecologically responsible citizen.

Inorganic and Organic Compounds

The substances which fall into this category are present in all ecosystems, but they are not obvious and many sportsmen are unaware of them. They



LITTLE BROWN BAT is one of many "consumer organisms." It feeds heavily upon insects, which are a vital link between plants and animal life.

include, for example, one form or another of the basic elements required for proper plant growth—nitrogen, phosphorus and potassium—along with numerous trace elements and other substances. These elements, whose presence or absence commonly acts as a limiting factor governing the growth of vegetation in forests, old fields, ponds, etc., all are part of the inorganic compounds in ecosystems. They are considered inorganic because they lack the element carbon in their structure. Air, water, and sunlight also are additional and vital inorganic parts of the ecosystem.

The organic components of ecosystems, on the other hand, generally are somewhat more obvious to an observer. One of the most important is the humus in the forest or old field soil. Another example is deer droppings, which help to enrich the soil and return some of the basic elements for reuse by new plants. There are many other examples as well, but these are adequate to illustrate the

types of components which fall into this category.

Producer Organisms

The most obvious producer organisms in a forest, for example, are the trees and shrubs which have become established there and which are growing throughout the late spring, summer and early autumn. Less obvious, perhaps, are smaller plants such as wildflowers growing on the forest floor or lichens firmly attached to rocks and boulders in the forest. All these are the green plants which have mobilized radiant energy from the sun, combined it with water and carbon dioxide and, through the process of photosynthesis, produced living, healthy organisms. These green plants, the vegetation in an ecosystem, are of crucial importance to the welfare of all animals living in the ecosystem, regardless of whether they are game or non-game species.

In the case of white-tailed deer, for example, the quality and quantity of the forest vegetation largely governs the size, health, and vitality of the deer. It also helps determine the size of the rack which the buck you're after will carry. A buck living in a forest with a poor supply of green vegetation for food may be merely a spike buck, but that same animal living in a forest with lush, abundant vegetation may have many points.

In a similar manner, the plants of a particular ecosystem are of vital importance to the health and survival of all other creatures living there. These plants provide the food, and thus the beginning of food chains and food webs, for the thousands of life forms living and operating day and night, season after season, in forests, fields and all of the other ecological systems we've talked about. And, lest you object to the presence of some creatures, perhaps a fox or owl, or feel that you can do without them, stop for a moment and consider that all of the ecosystems existing in our world are based upon these same con-

cepts and contain similar components. That is the way in which life processes have evolved on our planet.

Consumer Organisms

Since you are a sportsman, with the means to harvest many of the animals found in our ecosystems, you obviously are the most important consumer organism represented in the forest or field. Or are you? Certainly, in terms of your ability to remove animals from these areas, you are extremely powerful. But let's examine in greater detail some of the vital consumers which are not game animals and which are not hunters, but which nevertheless play major roles in determining your success or failure as a sportsman.

Insects are the first consumers to appear. That's where your problems begin, you say, particularly if species such as the gypsy moth are involved? Perhaps. But before you become too carried away by the limited, short-term destruction which *some* insects do to vegetation, stop for a moment and consider the basic ecological roles which these amazingly abundant and diversified creatures play in the ecology of most ecosystems.

Take the forest, for example. Insects are absolutely basic to the ecology of these areas. No forest system could long survive without them. In many cases, insects are the first steps in forest food chains and affect the welfare and survival of dozens of species of birds and mammals which are higher in the food chains and food webs in forested areas. Insects have the remarkable ability to feed upon plant life and to convert the sun's energy, now stored as plant tissue, into a form suitable to provide protein for animals higher in the food chain. Of course, not all insects perform this vital ecological role of converting plant tissue into animal protein, but those species which are herbivores (plant eaters) are the single most important links in animal food chains and food webs.

Insects are not the only consumer

organisms in forests or other ecosystems. A vast array of other animals, including moles, shrews, bats, mice and voles, and game species such as deer and bear, also occur there. Frogs, toads, lizards and snakes are additional members of ecosystems and the food chains and food webs which are, by now, growing increasingly complex. And don't forget birds. Aside from insects, and their crucial role in nature's web of life, birds are the single most obvious consumers of which we become aware. Moreover, they form many different links in ecological food chains and food webs.

Some birds, such as ruffed grouse and turkeys, are mainly herbivores and eat plant materials of one type or another, but many are carnivores (meat eaters) and play essential roles in ecosystems by helping to control, but not to exterminate, populations of animal species ranging from insects to rabbits. For example, a black-throated green warbler nesting in the cool hemlock forests of the Pocono Mountains feeds

A BRACKET FUNGUS (*Panus albidotomentosus*), one of many decomposers which return dead plants and animals into the ecosystem for reuse.



largely upon insects and helps to assure that these invertebrate animals do not become too plentiful in the forest. Indeed, wood warblers have evolved into very specialized animals and occupy very specific and specialized ecological niches in forests. They are, in



JACK-IN-THE-PULPIT in fruit, one of the green plants in the ecosystem which are of crucial importance to all animals in that system.

fact, probably far more important to the overall welfare of a forest than are game species such as deer.

Other avian carnivores, of course, are larger and take larger prey. The great horned owl, for example, feeds upon a variety of animals, up to the size of rabbits, skunks, etc.

Finally, you may be the dominant consumer in the environment. That all depends upon your activities. If you live in harmony with nature and cooperate with the natural ecological processes which are continually operative, you may actually share the role

of dominant consumer with various other large animals. But, on the other hand, if you enter the forest and cut and slash away all of the timber with little or no regard for the other plants and animals which live there, you have clearly demonstrated your ecological dominance over the land—but only in a very foolish and negative way which will not long remain dominant. All too frequently, we have been trying to force nature to come to terms with us. We are now beginning to see how terribly we have failed in that approach. We must now live in harmony with our environment, and to do that means that we must learn to understand ecology and how it works.

Decomposing Organisms

The last of the four major components of the ecosystem, any ecosystem, is the group of decomposers—mainly bacteria and fungi. Most sportsmen probably seldom, if ever, think about fungi when they are walking through a forested area during hunting season. It would be well if they did! The whole operation of natural recycling of materials back to a form which can be reused again and again in the natural world is, to a large extent, dependent upon decomposers. Organic gardeners, for example, long have followed nature's example and rely upon the manufacturer of compost as one of the fundamental methods which they follow in their gardening activity. Nature, of course, creates compost and humus on a gigantic scale, and the mushrooms and other fungi which often add charm to a walk in the woods are important parts of this recycling process.

Stability of Ecosystems

Ecologists long have recognized that the more complex an ecosystem is, particularly in terms of the numbers of species of plants and animals living there, the more stable is the system. For example, anyone who has ever walked through a tropical rain forest

has been instantly impressed by the tremendous numbers of plant and animal species which are present. But, at the same time, he has noted that despite the abundance of the many species of plants and animals, seldom is a species represented by large numbers of individuals. Here is the key to the ecological stability of ecosystems, regardless if they are tropical rain forests, hemlock forests in Pennsylvania, or old fields in which you hunt pheasants. In a stable ecosystem, such as a rain forest which is composed of many different species but relatively few individuals of any one species, any natural disaster which might occur will affect some of the components of the ecosystem but not too much disturbance will occur in the overall area because there are still so many other plants and animals unaffected.

Simple Ecosystem

On the other hand, let's briefly examine an example of a simple and therefore relatively unstable ecosystem. Most of the arctic and sub-arctic regions fall into this category. They contain relatively few species of plants and animals, but rather large numbers of individuals of the species present. So, if only a few kinds of plants or animals are attacked by disease, or their food supply is reduced, much of the entire ecosystem will be severely disturbed and the overall ecology of the entire area thrown out of balance. That is why ecologists are so deeply disturbed about the proposed Alaska oil pipeline. Even a relatively minor oil spill in an unstable ecosystem such as the arctic areas of Alaska could severely affect the area for prolonged periods of time, whereas a

similar disaster occurring in a stable ecosystem would be less destructive although still highly undesirable from all points of view.

By the same token, when people try to "control" (meaning exterminate) predators they are reducing some of the complex factors in ecosystems and are making the areas less stable. Thus game and non-game animals alike are more subject to disease and starvation if other natural disasters occur in the areas where these animals live. Clearly, there is an important lesson to be learned here in terms of the role of ecology and the ecosystem in wildlife conservation. It is simply that the greater the diversity of the components of an ecosystem, the more stable is the system.

Each of us should examine our goals as citizens concerned about the welfare of the total environment, not just game animals, to determine if programs of complete predator control, clear cutting of forests, trading ecologically rich areas for areas of open land suitable mainly for pheasants or other game species, etc., are in the best interests of the total environment. If we do not begin to ask these serious questions, and perhaps learn to be satisfied with fewer animals bagged on the hunt, we may well wake up soon to discover that there will be no hunting, or no fresh air, or no pure drinking water available. The basic concepts which I have presented in this article are absolutely fundamental to an understanding of our place in the environment, and to an understanding of why we may have to modify some of our style of living if we are to survive and live in harmony with nature. To survive, man must understand ecology.

Gets Around

The coyote ranges over more of the U. S. than any other single species of wild animal.

*Coached by Virginia Harpster, This Group of
Sharpshooting Coeds Ranks as . . .*

Penn State's Winningest Team!



PENN STATE'S WOMEN'S RIFLE TEAM—kneeling, Mary Allwein, Coach Ginny Harpster, Rose Keith; standing, JoLynn Kuhlman, Eloise Robbins, Arlene Brack and Donna Valtri.

By Mort Levy

WHEN Virginia Harpster was a 12-year-old in braids from Pennsylvania Furnace, her fondness for shooting won her a fine doe and a subsequent photo record of that hunting success in *GAME NEWS*. The braids are gone now; today, Ginny Harpster is a short-haired affable member of the physical education faculty at Pennsylvania State University whose professional duties allow little time for hunting. But if Ginny Harpster's hunting opportunities have diminished, her

love of shooting has increased a hundredfold. In fact, her early interest has developed into a full-scale love affair that is greatly responsible for what is presently the winningest team at Penn State—the women's varsity rifle team, a current six-member group that boasts an admirable competition record of 27 wins in a row, including victories over both coed and male opponents. As coach of that team, Ginny has guided her sharpshooters to victories over such opposition as Drexel

Institute of Technology, George Washington University, and Gannon College, a remarkable feat when one considers that only a few of the many girls she has coached can claim to have done any shooting prior to entering college.

So how does she recruit team members? "I just pull them out of class," Ginny admits. Perhaps because riflery is less demanding physically than other women's sports, such as field hockey and gymnastics, it has grown quickly in popularity among the coeds as a physical education elective, and it is mainly from among these novices that Ginny recruits her team members. "I look for girls who demonstrate average ability in the prone position, good mental attitude, and, above all, desire. If a girl possesses these three qualities, I can teach her to shoot. After that, it's primarily a matter of conditioning each girl, once she has learned the proper mechanics of shooting, to discipline herself to always make the next shot an exact re-enactment of the previous one. What we want to teach our girls is not the sport of shooting, but the *art* of shooting."

Self-Discipline

That self-discipline is instilled on a modern firing range located in the basement of White Hall, the women's physical education building. The 50-foot range boasts ten firing points, automatic target carriers, and exceptional lighting. Team members are instructed in the intricacies of Model 52D Winchester and Anschutz Match and Super Match rifles, and are taught to fire from the standing, kneeling, and prone positions.

What prompts a coed to want to shoot a rifle in competition? For one thing, says Coach Harpster, the girls are attracted by the personal challenge that the sport provides. As in gymnastics, a participant is in constant competition with herself as well as with an opponent. Perfection becomes the shooter's goal; she must never permit herself to settle for less.



GINNY HARPSTER at age 12, with her first deer. Though her braids now are gone, her interest in shooting remains as strong as ever.

By seeking to master the "art," each shooter experiences both frustrations and successes that help her to discover herself, and, in the process, each acquires enormous and desirable amounts of self-discipline and confidence.

What plans does Coach Harpster have for women's riflery at Penn State? On April 17, the First Annual Women's Invitational Rifle Match was held at the university. The contest attracted 22 coeds who competed in team and individual matches, and the event was the first of its type in intercollegiate competition for women. A second goal is that of fielding a women's pistol team. But, above all, promoting and providing more opportunities for women to learn and to enjoy the fine art of shooting, whether at Penn State or elsewhere, is the constant endeavor to which she is committed. That she is succeeding is exemplified best by the fact that already she has begun to receive inquiries from high school girls interested in competing for Penn State University's winningest team. No coach can hope for any finer tribute to her efforts than that.

How to Find Grouse Without Fail

By Byron W. Dalrymple



BYRON DALRYMPLE takes a few moments to examine his first grouse of the day. Knowing where to look makes chances of success good, he says.

ONE OF THE most amusing, and I must admit ego-satisfying, experiences I ever had with ruffed grouse occurred one lovely fall morning when I was squiring a newcomer to "partridge" hunting around my favorite expanse of forest. This gentleman lived in a mid-South state where no ruffed grouse are found. An avid quail hunter, he had long yearned to shoot grouse and I had invited him north to our bailiwick for a visit.

On our very first morning, an October day that had dawned beautifully crisp and sunny, we drove along a

backwoods road where an intermixture of maples, oaks, poplars and varied evergreens crowded the vehicle on both sides and came almost together above us. At one point an exceedingly dim trail, once a log road but in disuse for many years, turned abruptly into the woods to our left. I stopped my old hunting car.

"Get out quietly," I said. "Walk twice that quietly back the old trail there. Within a hundred yards it will bend to your left, and you'll immediately see a small opening with a few scattered trees and bushes. Approach very carefully. Within 20 steps of the edge where you break out, there is a large oak standing on the left a few feet out in the clearing. Four grouse will be feeding beneath it."

He looked at me as if I had come unhinged. Well, in a way I was, because of course I did not know positively that the birds were there. But it was 9:30 a.m., precisely the proper time for them to be stuffing their crops. This oak, I'd observed, was loaded with small acorns. And, beneath it in grasses and fallen leaves, green clover was abundant. On two occasions at this same time of day during the past week, just prior to season while I was out scouting, I had flushed four birds right there.

My friend went over the directions, still feeling his leg was being pulled. But he did make the brief prow. I stayed put, not wanting to involve him with the racket of an extra hunter. In a very few moments I heard two fast shots. Presently he came back, carrying his very first grouse and beaming from ear to ear.

"I missed the second," he said breathlessly. "There were four, just like you said and exactly *where* you said." He paused, frowned. "If I'd only believed you, darnit, I'd have been

more alert and might have got two! But how did you *know*?"

"I didn't, really," I admitted. "But I knew four birds lived right around there."

A great lesson is here for those who love this grand game bird and who wish to listen. Many hunters, especially sportsmen just starting on grouse, think of the ruffed grouse simply as a "forest" or "woods" bird. Whether with a dog or just walking 'em up, they therefore set out through the forest or woods on a grouse hunt. Right? All right so far as it goes. They're in the proper *general* habitat. But wandering around the woods aimlessly is the poorest way on earth of bringing grouse to the table. It wastes time and flaunts opportunity. It may often seem to you as you hunt and a bird flushes here, another there, that they are "just anywhere." The fact is, however, that the woods does not all look alike to a grouse anymore than to you, and the birds, far from being aimlessly scattered or disturbed, are very exactly placed.

Most Important Item

The one item more than any other that binds them irrevocably to pinpoint locations is *food*. To be sure, a grouse needs the essentials — water, safety, and comfort. In any woodlot or forest comfort is not difficult to find. Over grouse range water is seldom any problem. Safety is relatively equal wherever there is cover. But food is not by any means equally distributed throughout the habitat of the ruffed grouse. Thus, if you know *what* the birds eat, and at *what times of year* they eat each variety, you are launched on the proper track.

But there is more. You must know what is available in the specific terrain where you will hunt. And you must know whether available foods are abundant or scarce. Actually, the success of grouse hunting, with or without a dog—assuming you can hit a bird once in awhile, which isn't easy! —is almost wholly dependent on those

considerations. Yet it is astonishing how few grouse enthusiasts seem to realize it, how few diligently pursue the thesis to its logical conclusion: the widely exciting sound of birds bursting from cover.

Let me give you a striking illustration. I have had opportunity to hunt ruffed grouse in a number of places over their broad U. S. and Canadian range, from western mountains to the Great Lakes region to the east and New England. This particular fall I was in an area of southern Ontario. During the very first morning, checking as always to see, in strange territory, what was in the larder, I noted that the snowberry bushes — shrubs that grow about headhigh on the average man and have in productive years clumps of small, white pulpy fruits — were especially well loaded this fall. These bushes usually grow quite scattered — one here, another some yards away, in open woods.

I know well that grouse eat these berries. They are not a staple by any means, nor especially nourishing. But they are available, for a brief time only, and any soft foods acceptable to grouse will be utilized with concen-



GOOD GROUSE DOGS are not exactly common, and the man who owns one considers himself one of the select few among bird hunters.

tration during falls when they are especially abundant.

There did not seem to be other food here presently as abundant or as available and accessible. So, while my two partners worked rather aimlessly, I made a beeline for bush after bush that was hung with snowberries. I checked out half a dozen before my first bird scared me near witless by flushing almost in my face. I missed it with practiced expertise. But I was now convinced I had the secret of *where*.

Presently another bird bounced up from beneath a snowberry. This one I brought down. I checked its crop. It contained a few green leaves and a mass of the mushy berries. During that morning we all killed limits and every bird was found under these bushes. This was a classic situation of grouse tied to available seasonal food.

I suspect that many grouse hunters do not fully understand what sort of bird Old Ruff is. This is a most seden-

tary creature. I dare say that a ruffed grouse left totally undisturbed, without fright or molestation, will fly seldom. It walks. It may hop up into an evergreen for the night, drop to ground in the morning and walk out to feed. If food is abundant, it will fill its crop within a very few yards of where it roosted. Then it will wander perhaps to a nearby ridge, to an old rotted stump where it has scratched out a dusting place, or to a similar spot in soft, dry earth. It will walk to the creek for a drink, laze about during midday, then in late afternoon feed eagerly until dusk because it will burn up a lot of food during the night. In all this time it may have covered much less than an acre of territory.

Many grouse, in fact, move in a lifetime less than a half mile from where they were hatched. To be sure, temporary food conditions will send them from ridges to valleys and vice versa. But this short-winged bird is not a distance flyer. It is too heavy in the

ON RARE OCCASIONS—VERY RARE!—a grouse flushes in the open, making a comparatively easy shot—if the hunter isn't so surprised that he forgets to shoot.



breast compared to its wingspread to be able to fly any great distance, even though it is fast and erratic over its relatively short courses. Its crop is exceedingly large, and it feeds much of the time on soft foods. It thus requires a lot of bulk to fill the crop and to fuel its system.

Therefore grouse are never abundant *except* where food is plentiful. Of course you can by continual harassment make grouse wild and scatter them. But you cannot scatter them very far. Left unmolested again, they will gravitate back home. That is why I could with a fair chance predict where those four birds would be, under the oak. This is where they lived, and they had lots to eat.

One of the seemingly perplexing problems for the novice, of course, is that grouse eat an unusually wide variety of foods. Fruits are among the mainstays. The several varieties of cherries, such as pin cherries, black cherries and choke cherries, are favorites. Wild grapes are eagerly sought. The several hawk species, especially those that grow as shrubs in low places, such as black hawk, and the so-called wild raisins, plus wild plums, the serviceberry and Juneberry, wild rose hip, thorn apples, blueberries, highbush cranberries — all these and many others are great grouse food. Wild strawberries, wild blackberries, raspberries, and others may be added.

Don't be perplexed. You can cull some of these out so far as your fall hunts are concerned. For instance, the summer fruits, such as strawberries and blackberries, will be long gone. The wild cherries, the hawks, the wild grapes and other varieties of fall fruits will be available. Next ask yourself, has it been a good season for these, or for any particular one?

I vividly recall one season in southwestern Pennsylvania when I hunted with two friends. The moment we arrived at our hunt location, one of these gentlemen, who lived there, told in glowing terms what an abundance of wild grapes there were this season.

We hunted the grapevines, hopping from spot to spot where they grew. It was as simple as that. Undoubtedly grouse might have been found elsewhere, too. But there was no need. We had great shooting as we worked the grapevines.

Not a Grape

The next fall when I went back, eager for more of this, we found not a grape. It had been a bad year for this fruit. This time, however, our local friend explained that he had two old apple orchards spotted, long abandoned, where the trees had "run out" but still bore small, gnarled fruits, and that they had produced. He also had located a big thorn apple patch in grouse country that had abundant fruit.

"I always proceed on the assumption," he explained, "that the birds will take this soft and perishable food first. They make the most of it while it's available." They did, too. We again had a great patch-to-patch hunt.

During hunting seasons, the fruits thus can be eliminated one by one, according to the productivity of the year, and the time of the year, and by what is or is not abundant in the region where you hunt. It isn't complicated. In my experience, any given grouse habitat has no more than four or five wild fruits likely to be abundant enough to produce good shooting because of them. Of these, one to three may be eliminated in any given season because they have not borne well. This elimination puts you right on the hot spots.

Nuts, of course, may be considered "fruit" for this discussion. They last throughout the fall. But nowadays, excepting certain acorns of a size grouse can handle, they are not as important as they once were. Beechnuts, which long ago were a prime food, are harder to find now because the majority of the beeches are gone. If you know of beech ridges, and you discover that during a certain year they have produced plentiful

mast, you are sure to find good shooting there.

Before we move on to another category of foods, let me say that most certainly if you search for grouse foods in types of cover grouse do not favor, you will waste most of your time. A ruffed grouse is not a bird of dense forests. Like the white-tailed deer, it is a creature of the edges. Invariably I begin by scouting stream bottoms. The typical trout stream, with bordering alders and with hills reaching up from it, is perfect. The woods openings where scattered timber grows, the old roads and trails—absolutely perfect—along which foods are abundant, the cuttings, the burns . . . all of these are “grousey” places. Ground cover is generally light. That is, dense close brush at ground level doesn’t appeal. But overhead cover does. The birds need fly-away room. You do not need to find, in fact you will seldom find, a large expanse that has grouse throughout. That’s the point. Seek a small corner, perhaps a small opening up the slope from a

creek, a stand of small trees in a fence corner near a woods, a point of cover along a creek that thrusts into a farm field. It may hold one or several birds. They will be there, mark my word, week after week. They *live* there.

Mental Notes

Make mental notes, on your walks or hunts, of every place a grouse flushes. There is a reason why it was there. And every year, given good hatches and an unchanging pinpoint habitat, other grouse will be there. Further, if you will make a rigid point of carefully observing the surroundings each time you flush one or more birds during the pre-season weeks, or during the season, you will soon begin to know and have a feel for precisely what a grouse covert looks like. They are highly varied, but all have certain things in common.

For example, I know of a beaver pond which requires a four-wheel-drive to get near it. The dense evergreen growth on the way might hold a few birds in dead of winter when they desperately try to find protective cover. But during the average season it would be a waste of time. Yet as one moves closer to where this beaver pond is, suddenly a fairly open area appears. Here, long ago, there was a log bank when timber was being cut. An old sawmill was here once, too, for a huge, rotted sawdust pile, barely noticeable, is stacked just off the bank of the small creek. Long use by beavers has left down timber a good distance from the pond.

Wait—there does not seem to be much food. What about the fruits? This gets us to the next part. There are a few scattered serviceberry bushes, some blackberry brambles, occasional haw clumps along the creek bottom. That’s all it takes during fruit season. But what would birds do after the fruit is gone? Look closely at the grass here. Under the taller species there is an almost solid matt of *clover*.

The green foods, clover especially, plus wild strawberry (so don’t discount



A PAIR OF GROUSE taken from the game bag at the end of the day is worth a photo any time, and a few minutes of quiet contemplation on the worthwhile things in life.

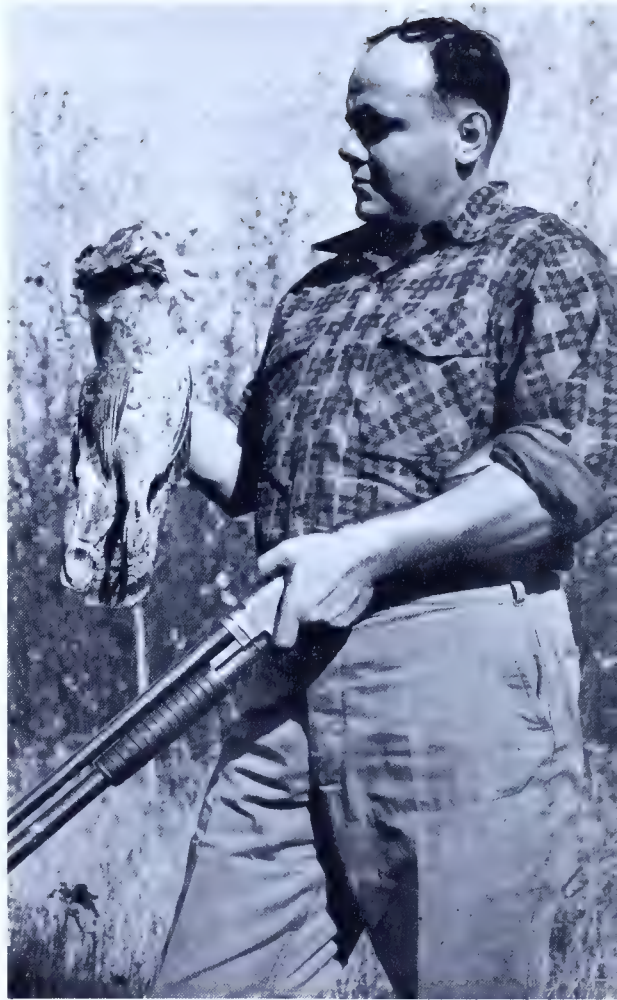
those patches after fruit is gone!), wintergreen, even without berries, and many other green ground plants are favorites of ruffed grouse. If I were to select *the* one, it would be clover. I'd love to have a dollar for every cloverpatch grouse I've nailed. Clover is not only abundant over broad regions, but it hangs on, well protected as a rule by overcover, throughout winter. In fall especially, a clover patch back in the woods, near water and with some other foods available, is an absolutely surefire grouse haven. Clover grows in openings and along edges. Where you find it in the woods, you have already found a virtually perfect grouse situation.

So now, this beaver pond. I discovered it while consciously looking, preseason, for old trails few hunters might probe, and where, at end of the line, I might find openings, with clover. On that first glorious day, about two weeks before shooting time, I made one turn around this area and flushed 13 grouse! These were undoubtedly mostly young birds, but I could hardly wait to return.

Not Too Early

I made my bid first thing on opening morning. Not too early. I wanted the birds to have time to get out of the surrounding woods and into the clover. Actually late afternoon is best. It's the most frenzied feeding time. But I didn't want to be beaten to this secret spot. You soon learn that if small balsams or clumps of varied shrubs are scattered over such a patch, the birds will almost always be near one. They cannot quite divorce themselves from all cover. And I've actually seen birds run to hide under bushes as I approached.

The hunt did not take long. In one round I flushed eight grouse. I managed to kill two. Limits were higher in the state I was hunting at that time and I could have taken more—but I didn't hit more! After that, hunting as I've suggested, patch to patch and not aimlessly, I left and went to a



FOOD IS THE ITEM that pinpoints grouse. Knowing what birds eat at the various times of the year can put the hunter where the birds are.

chokeberry thicket some miles distant where I knew fruit hung thick. There was no need to hunt the country in between. I already knew where the birds were.

Later on in winter, such as during Pennsylvania's December-January segment of the season, feeding habits of the birds often change drastically. They will of course feed on old fruits and on nuts when they can find such items, or on wild rose hips or even sumac. And, if they can locate green food such as clover or other ground-growing greens, they will eagerly take it. But now we get into the so-called "budding" season. This can be delight-

ful hunting, if you go at it in a sporting manner.

Now during the early and late feeding periods, and sometimes even in midday if weather has been severe, the birds get up in trees to fill up on nourishing buds that will become spring's new green shoots. Birches, maples and willows are among their favorites. In a few areas they will eat other buds. One time I watched a line of big willow trees beside a stream off and on all winter. Hardly a snowy day went by that there were not at least three or four grouse in every one, feeding on the buds.

You must seek the types of trees the birds like. Dogs do little good now, although of course birds on the ground are located by them. But as the sun warms, many a grouse will be way up high, picking a cropfull. I've known unethical hunters to prowl the woods at this season looking up, spot a bird ahead, then sneak up and pot it. This is hardly a sporting endeavor. But I can assure you that a sneak through budding grounds, trying to take the birds as they flush from their perches, is one of the sportiest pursuits you

will ever try. They seem to fall off, drop and then zoom away. Trying to guess where to hold is impossible. Maybe you collect one bird. But it is worth the effort. Old apple orchards where fruit clings or lies in snow aground are also good spots for late-season hunting.

These, then, are my suggestions for finding grouse without fail. The keen interest one soon discovers in knowing what to look for becomes something of a sport in its own right, like hunting arrowheads or rock-hunting. Out of a vast sweep of woodland, you know many secret pockets where there may be one bird, or two, or three. And you know that as long as the habitat remains as it is, there will always be birds there, given a reasonably good nesting and production year. It sure beats combing the whole forest, especially with limits never high nowadays.

If you haven't hunted ruffed grouse, you should. And if you have, but by the wandering method, you shouldn't. The way to a grouse is via its appetite. Knowing this can save you a lot of wear on your hunting boots!

Seventh Turkey Calling Contest

The seventh annual Pennsylvania State Turkey Calling Contest will be held August 21 at 10:30 a.m., EDT, at the Franklin County Fair. This contest, which is sponsored by the Franklin County Federated Sportsmen, provides hunters with an excellent opportunity to learn the different techniques of wild turkey calling. Everyone is eligible to compete in the contest except a caller who has won two years in succession; such winners are eligible after a one-year waiting period. In addition to the state championship, a separate category for out-of-state callers will also be conducted, with a trophy to be awarded the winner. There is no entry fee. Scoring is based on five calls—the putt, yelp, whistle, gobble, and the individual's specialty. The fairground is located near Williamson on Route 995 about 12 miles southwest of Chambersburg.

They Find a Root and Tap It

An adult female cicada, or locust, lays up to 600 eggs in the bark of small branches and twigs. Upon hatching, the young nymphs fall to the ground and burrow until they find a suitable root from which they suck juice.

Frustrations and Rewards

By W. W. Britton

A GAME PROTECTOR has many frustrations and many rewarding experiences. Late one July night many years ago, my doorbell rang. I got up and went to the door. There stood a weatherbeaten old farmer whom I had known for years. Lou was the old type farmer who used horses to plow and cultivate his fields. The fence-rows on his farm had been much neglected, which provided excellent cover for game, and he permitted hunting. The late L. R. Kremer had introduced me to Lou, and we had many pleasant and productive hunts on his farm with Mr. Kremer's little beagles. A few times, Lou got his old single barrel and accompanied us when his farming chores permitted. At other times, when he was too busy to go with us, we always shared our game with him. Lou and his wife did the farming. If they had children, I never met them.

"Come in, Lou, and have a chair," I said.

After we were seated he said, "I hate to bother you at this hour of the night." I assured him it was no bother, and he continued. "About four this afternoon I was plowing in the field next to my meadow. A brown Chevrolet with a rumble seat stopped at the end of the bridge. Three young fellows got out and each of them had a 22 rifle. They started down along the creek in my meadow. It wasn't long until I heard them shooting quite a bit. When our white ducks came up from the water to the barn this evening for their corn, three of them were missing. I can't swear those fellows shot them, but I'm pretty positive they did."

His conversation was getting interesting. It reminded me of the time Mr.



THE LANDOWNER TOLD me that when his ducks came to the barn that evening, three were missing. He'd heard shooting and believed they were dead.

Kremer and I were hunting in the New Franklin area before I was a Game Protector. The beagles had chased a rabbit onto an old farm where trespass notices were posted all over the place. The farmer, hearing the beagles, came rushing out to chase us off, but we were not on his property. Regardless, he climbed over the fence to where we were and wanted to take our hunting license numbers. Obliging we turned our



THE MAN ADMITTED he and two friends had been shooting with their 22s, but denied killing any ducks. But one feather made his explanation a bit hard to believe.

backs to him and with the stub of a pencil he started to write down the numbers. It was during the period that county numbers were at the top of the hunting licenses and Franklin County was 28. The old boy was pretty sharp—or so he thought. “Hold on here,” he said, “you both can’t be 28, you’re not twins.”

We explained that 28 was our county number. It was at this point that Mr. Kremer said, “Mister, it would be worth a couple of dollars to hunt on your property.”

“Now,” he said, “your conversation is getting interesting.”

Getting back to this story, I asked Lou how the three young men were dressed.

“They all wore gray baseball caps, white shirts and dark trousers.”

After many more questions I assured him I would do my best to learn their identity and bring them to justice.

The following morning I drove out to where the brown Chevrolet had

been parked. The soil was moist and I determined by the tread impressions that the tires had been made by Good-year. Three men were working on the road and I talked with them. They had seen the car—a 1935 Chevrolet with a rumble seat—and remembered three young fellows wearing gray baseball caps. But they didn’t remember any shooting. They apparently had quit work before any shots were fired. They did not know the boys, but the driver of the car had light hair and they felt they could identify him.

Released at 3:30 p.m.

It now became a question of which industry in Chambersburg released its workers about 3:30 p.m.—assuming these men were employed. I knew that Letterkenny Depot released some men at 3:30 p.m. and, returning to Chambersburg, I contacted the State Police and told the story Lou had related to me. Trooper Joseph L. Pochyba was assigned to help with the investigation.

At 3:30 that afternoon we stationed ourselves not far from the depot’s main entrance. Three young fellows soon came by, all wearing gray baseball caps and white shirts. They got in an old Ford two-door sedan. We followed them back to Chambersburg where they parked the car and were about to enter a taproom. Trooper Pochyba approached them and asked to see the driver’s license of the operator. He had one. But he did not have an owner’s card for the Ford. He told us the car belonged to his father. They had a good alibi for the previous evening.

As we left them, the trooper and I agreed that something was wrong with this trio, as all had been very nervous. Trooper Pochyba wrote down the car’s license number and when we returned to the State Police substation we discovered that a report of a stolen Ford had just come over the teletype. The license number corresponded to the one on the car driven

by the young fellows we had questioned less than a half hour before. We returned to where we had left them, but they had departed. We now knew the reason for their nervousness. They were subsequently arrested.

For a week I kept looking for a 1935 brown Chevrolet coupe with a rumble seat, and traveling on South Main Street just about dusk one evening I saw such a car parked at the curb. After parking, I walked back to look it over. On the right running board I saw a white duck feather stuck fast to some mud on a running board. A man and wife I had known for quite some time were sitting on their front porch. I called to the man to come and look at what I found on the running board. He agreed it was a white duck feather and I took it from the running board and placed it in my note pad. I then phoned the State Police and asked them to check the Chevy's registration. When the owner's name and address were relayed to me, I could not believe it, because I knew he had been sentenced to prison and I had not learned of his parole. There was only one thing to do now, and that was wait until the driver of the car returned. I assumed he was in the local theater, but this assumption proved to be wrong, as he was working in one of the buildings. I learned this about 9:30 p.m. when it started to rain and he came out to close the car windows.

Evening in Question

I started to question him about his whereabouts on the evening in question. He was told of the tire tread marks in the mud, and that his tires were of that make. He agreed he had been parked at the end of the bridge, and that his two companions and he had 22 rifles. He said they had walked down through Lou's meadow at the time designated and that they saw Lou plowing in the field. But he denied shooting any of Lou's ducks. When asked what they were shooting at, he said tin cans.

"Believe me," he went on, "I'm on parole and I'll never do anything else wrong. I don't want to go back to prison."

"Then, how can you explain this white duck feather I found on the running board of your car? I have a witness that it was taken from there."

He pondered this for quite a while before saying, "I believe I can tell you how that got on my running board. I was fishing for trout at Five Forks the other night and there were a lot of white ducks in this narrow stream. I must have stepped on the feather and it stuck to the running board when I stepped in my car."

Still in Doubt

This sounded possible, but I was still in doubt. "Well, if you're innocent you should have no objections to confronting the farmer," I said.

"I'll be glad to do that."

We drove out to Lou's farm and now it was my turn to call someone out of bed at 11 p.m. My knock on the door brought Lou to his bedroom window. I told him I had the driver of the car which had been parked at the end of the bridge and I wanted him to identify the car if he could. Shortly, Lou came to the door.

"Mr. Britton, I guess I should have called you," Lou said. "The three ducks returned to the barnyard the next morning."

"Okay, Lou, I'm glad they came back. Sorry to get you out of bed."

The young man and I got back into the car.

As we were driving back to town he said, "I'm glad they came back too. The evidence you had on me, although circumstantial, was rather convincing."

I assured him I was glad he was innocent.

It has been many years since Lou crossed the great dark river. Even though he caused me some frustration, I was rewarded by proving to him I would do my best to find the men he thought had shot his ducks.

THE BOX HUCKLEBERRY

By David R. Thompson



THE BOX HUCKLEBERRY is not nearly so impressive in appearance as a Sequoia, but it may be much older than the famed California trees.

PENNSYLVANIA has more National Natural Landmarks than any other state. In 1968, a unique specimen of nature was dedicated as a National Natural Landmark in Pennsylvania. It is a rare native shrub called the box huckleberry (*Gaylussacia brachycera*). Botanists have estimated that one colony of this plant in the state is approximately 13,000 years old. If this is reasonably correct, it qualifies, so far as is known, as the oldest living thing on earth.

Other living plants, such as the bristlecone pine and trees of the genus Sequoia in California, carry similar claims to fame. That Pennsylvania's entry should receive the distinction as the most ancient living thing is contested. Perhaps the conclusive proof is hidden by history. No one but determined botanists are equipped to make the final analysis, and until science makes an official proclamation, the answer is undecided.

Forgetting for a moment that the box huckleberry is a prime prospect for the laurel of longevity and returning to the more familiar realm of the Keystone State, we can consider the shrub not as a celebrity but as a highly interesting Pennsylvania plant. By taking a closer look at the plant itself rather than speculating on its reputation, we can at least come to know the box huckleberry as the rare shrub that it is.

To the casual observer unaware of the box huckleberry's reputation, there is little about it to excite the senses. This evergreen shrub grows low to the forest floor, varying in height from four inches to a reported two feet. A resident on the private property where the oldest colony exists said the plant at places forms a dark green mat about one foot high which completely hides the ground.

Leaves of the box huckleberry resemble those of the boxwood which is responsible for its name. The one-half to one-inch long leaves are oval, glabrous, obtusely serrate and positioned alternately on upright and angled stems. In late fall and winter the green leaves acquire a bronze hue.

The box huckleberry is often referred to as a "biological wonder." Its origin remains a mystery and some scientists believe it is a remnant of the vegetation of the pre-glacial period. In May or June the plant is arrayed with white or pale-pink blossoms, and a blue fruit appears in July and August. The fruit is known locally as "Bible berry" and "Jerusalem huckleberry."

Only two known natural colonies of box huckleberry are known in Penn-

sylvania, both in Perry County. The first colony was discovered in 1845 by Professor S. F. Baird, of Dickinson College, Carlisle. This colony spreads over nearly nine acres of woodland one-half mile south of New Bloomfield. The second colony was discovered by H. A. Ward, an official of the Harrisburg Natural History Society, in 1920. This colony grows on about 100 acres of woodland on the northeast side of the Juniata River not far from Amity Hall.

Discovered in Virginia

Although Baird is accredited with locating the box huckleberry in Pennsylvania, the plant was originally discovered in Virginia around 1790 by a father and son team of French botanists named Michaux. Other natural growths have been found in Delaware, Maryland, West Virginia, Kentucky and Tennessee.

The box huckleberry discovered by Baird in Perry County did not create a furor among botanists. It was not until 1918 that Dr. Frederick V. Coville of the United States Department of Agriculture conducted extensive studies on the colony and announced that it consisted of a single plant that had started as a seedling at least 1200 years ago.

This colony however is a young upstart in comparison with the box huckleberry found by Ward in 1920. He stumbled onto the colony while participating in a fossil hunt. Yielding to a keen interest in plants, Ward wandered away from the fossil hunt and discovered the second colony. Dr. Coville and Dr. Edgar Wherry, also of the U.S.D.A., investigated the colony and determined that it too consisted of a single plant that covered a distance of $1\frac{1}{4}$ miles. They estimated this colony to be 13,000 years old, and it is the oldest living plant organism in the world known today.

The box huckleberry spreads by suckers from underground roots and grows an average of six inches annually. Botanists used the annual

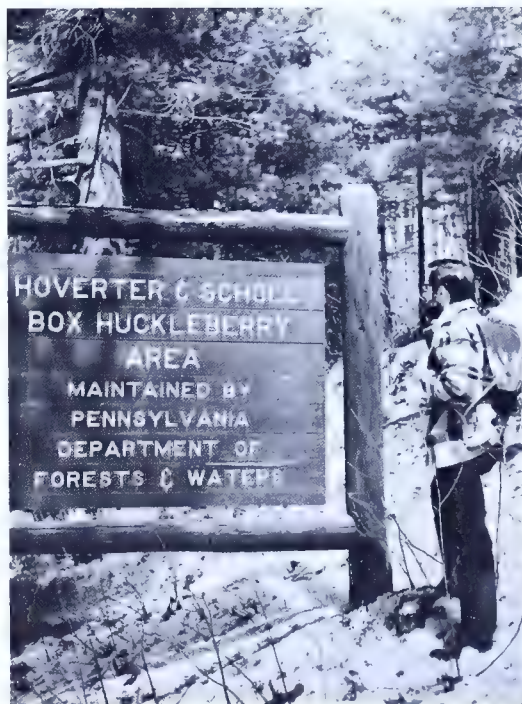
growth rate and the area occupied by the colony in estimating the plant's age.

The expansion of both colonies has been restricted. Dr. Coville said that the first colony described here probably would have been larger if cultivation, road-building, and a stream had not impeded its progress. The second and oldest colony has been partly destroyed by wildfire. Attempts to study the colony again would be complicated by the missing area.

It seems unlikely that the wild box huckleberry will ever succeed in propagating itself in new locations. The shrub produces few fertile seeds and attempts to reproduce it from seeds have proved futile. Dr. Wherry, however, has produced the shrub by cross-pollination, and successful test plantings have been recorded.

Realizing that the ancient and rare box huckleberry could become extinct due to its inability to reproduce, those concerned about protecting and pre-

THIS AREA IS ONE-HALF mile south of New Bloomfield off Rt. 34. A nature trail through the colony permits visitors to view the rare shrub.





THE BOX HUCKLEBERRY IS A native evergreen shrub known to exist in only two areas of Pennsylvania.

serving the plant for posterity directed efforts toward having a colony dedicated as a National Natural Landmark. This was accomplished on June 28, 1968, when approximately 200 prominent conservationists met in a sylvan sanctuary to witness the dedication of the colony near New Bloom-

field. The nine-acre tract, known as the Hoverter and School Box Huckleberry Area, is now owned by the Commonwealth. Here the box huckleberry is protected, and a nature trail leads visitors through the colony so they might study Pennsylvania's living fossil.

Book Review . . .

Training Your Retriever

Written more than two decades ago by the late Jim Free, an outstanding amateur dog handler, this book has been a classic in its field ever since. The author speaks of himself as a "meat hunter"—in the sense of a man who shoots game for the table, not to leave it to rot in field or marsh. An admirable attitude, we feel, and it explains his basic attachment to retrieving dogs, for these are the hunting partners which, better than anything else, make certain that downed game is recovered. Here Free tells how to recognize a dog worth training and how to train him quickly and easily. All steps are covered—house-breaking, obedience, retrieving (from the simplest kind to difficult blind retrieves), preparation for field trials, etc. This fourth edition has been revised by Herm David, editor of *Dogs*, and includes updating of the retriever registration and championship winner list and information on recent medical innovations. (*Training Your Retriever*, by James Lamb Free, 4th ed., revised by Herm David, Coward-McCann, Inc., 200 Madison Avenue, New York City, 1970. 336 pp., illustrated. \$6.95.)



Prospecting for Fur

By Ray Beck

Photos from Leonard Lee Rue, III

LAST FALL, I saw a caterpillar who predicted an open winter, and you know what it was like. In February, the groundhog foretold an early spring, and my garden was still frozen so hard the first of April that I couldn't stick onions. Then on Easter, a fellow told me that if you see snow on Easter Sunday, you will have money in your pockets until Easter comes again. Hah!

In spite of all that, I still believe in signs, fur signs that is. By signs a fellow can tell which animals are on his trapline, about how plentiful they are, what they are eating, and where they live.

While I watch for fur signs all during the spring and summer when I am fishing and digging ginseng, around the first of September I start looking in earnest. By then, the young are moving about on their own.

To many young trappers, looking for fur sign means hunting tracks, but there are other signs too, and the fellow who depends solely on tracks can be fooled. Wet clay may hold tracks for weeks in a protected spot, while still remaining plastic enough to take fresh ones. Then, one animal passing that way every night or so makes it look as though there had been a whole army of them. On the other hand, a lack of tracks doesn't always mean that furbearers are scarce. When raccoons are feeding on grapes and wild cherries, they will leave fewer tracks than when working on clams and crayfish. A mink often runs the bank going upstream and swims down with the current. I once saw where a mink had entered a creek after a fresh snow, and it didn't touch shore again for a third of a mile.

Quite often, tracks are scarce sim-

ply because there is little of the right sort of mud or sand to take footprints.

Three years ago I ran into one of the heaviest concentrations of minks I have ever known. In one afternoon, I saw five full grown minks, and Bert Watkins who was with me saw two others, yet I don't think we found a dozen mink tracks between us. There just was no place soft enough for a mink to leave any.

However, there was no scarcity of other signs. We hadn't gone a hundred yards when I caught a whiff of mink musk. We must have surprised the animal as we slid down the bank to the creek. Ordinarily, a mink doesn't throw its scent as freely as a skunk, but this one must have been scared pretty bad. We found water splashed on a rock, but no tracks.

Beneath almost every overhanging rock were crayfish legs and pincers, and half a mile upstream I found the remains of a good-size brook trout dragged back into a four-inch crevice. No question about this being the work of a mink. Unlike a coon which eats in the open, a mink drags its catch under cover first.

When prospecting for mink sign, it pays to look under all overhanging roots and rocks, even if it means get-

ting in the water to do it. A fellow sees a lot of things this way that he would miss walking along the top of the bank. Partly eaten fish like this one; legs and pincers of crayfish; small freshwater clam shells, opened by a bite on the hinge; sometimes even a muskrat with a hole in its throat the size of a quarter where a mink drank its blood after killing it with a bite at the base of the skull.

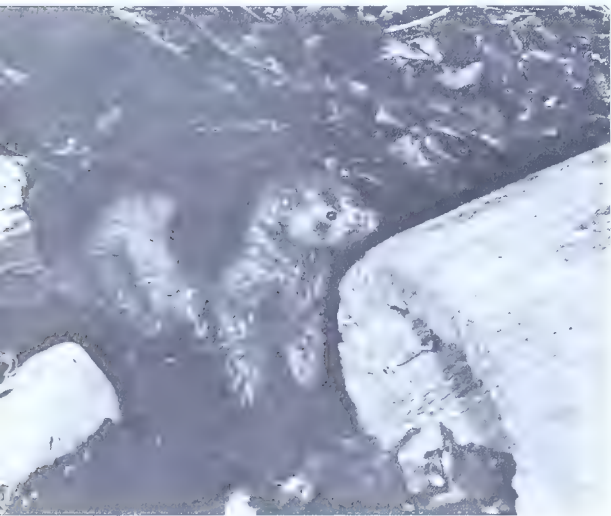
Screen of Grass

When there are no overhanging rocks or tree roots where a mink can dine in privacy, there is frequently a screen of long grass hanging from the bank above with a space behind it. Often there will be well-worn runways in such places.

Though a mink likes to be concealed while eating, it leaves its droppings in plain sight, usually on a bare rock or log. We had seen them half a dozen places before I found the trout. They are 1¼ to two inches or more in length, about as big around as a lead pencil, and sharply pointed at the ends. When fresh, they are black as tar; after weathering they may be silver-gray from fish scales, or mottled white and brown with bits of crayfish shell. Occasionally they contain so much rabbit or muskrat fur they look like grayish felt, but the size and shape is the same. No other Pennsylvania mammal leaves similar sign.

An occasional scat merely proves that mink are in the area, but on a flat rock just below an old beaver dam was a half a pint of them, both old and fresh. This indicated a mink den nearby, probably in the ruins of the washed-out dam. Being a cleanly animal, a mink never fouls its burrow, but deposits its droppings soon after emerging, usually within a rod or so.

We already had seen several minks when one ran across a beaver dam which still held back a sizable pool of water. A minute later, another ran over the top of an abandoned beaver house, plunged into the water, and swam in the direction the other had



WHEN PROSPECTING for mink sign, it pays to look under all overhanging roots and rocks, even if it means getting in the water to do it.

gone. After about 100 feet, it noticed Bert standing near where it would reach shore. It turned back toward the beaver lodge, dived under the water and disappeared, probably into the lodge. Later, I took off my clothes and swam out to the beaver house. On top of it were more mink droppings.

The pond was surrounded by a sphagnum bog containing a dozen or so decaying stumps which had stood on dry land before the beavers flooded the area. Of course, no mink could leave tracks on the moss, but in one of the hollow stumps were some feathers and one foot of a wood duck.

Judging by tracks alone, furbearers would have seemed so scarce in the area as to not be worth trapping, but an abundance of other sign indicated otherwise, and seeing seven minks between us certainly proved it.

Like mink, raccoons often travel along streams where their footprints are seen in the mud and sand. Roughly speaking, their tracks resemble those of a man's hands and feet, only smaller, with comparatively longer toes on the hind feet.

More Tracks Than a Mink

One coon leaves a lot more tracks than a single mink. Being heavier, it makes them in firmer mud. A mink hunts by sight and scent, but a coon finds a lot of its food by feeling for it, and it is less likely to travel by swimming the way a mink often does.

Along rocky streams where tracks do not show, you will probably find coon sign of a different sort. Stones lying near the water's edge will be moved as though someone had been looking for bait. This is the work of coons, which turn them over searching for crayfish and hellgrammites. It is amazing the size rock a coon can overturn. I have found where they moved rocks weighing as much as 20 pounds. Unlike the mink, which carries its catch away before eating, the coon usually devours its food on the spot, particularly if it is some-



RACCOONS OFTEN travel along streams where their footprints are seen in the mud. The tracks resemble those of a man's hands and feet.

thing small, such as a hellgrammite. Larger items such as fish are often taken to the shore or a nearby rock to eat.

Crayfish are eaten legs and all, but often in its hurry the coon overlooks a few legs or pincers. Fragments of crayfish lying on top of a rock are usually the work of a coon.

Another indication that a raccoon has been feeding is the opened shells of freshwater clams, with tooth marks on the hinge at the back. If these clams are small, two inches or less, they could have been opened by muskrats, but if larger, it was probably a coon.

Often coons will be found around springs and ditches far back from the streams. They like to walk a railroad rail or a two-inch oil line, leaving muddy tracks which remain visible for a long time on the rust.

Where coons have been feeding in a cornfield, signs are plentiful enough. Stalks will be pulled down and ears broken off. Often they have been



MUSKRATS LEAVE THEIR biggest signs in the marshes—houses protruding several feet above the water line. They are built of grass, weeds and mud.

dropped after a bite or two, as the animal moved on to another. The sign is plain enough, but deciding whether it was the work of coon can be difficult. Many different animals in Pennsylvania like corn, but nine times out of 10, coons get the blame.

A little over 30 years ago, a farmer wanted to borrow some traps for coons that he claimed had ruined half a field of corn. At that time, raccoons were scarce and were protected until the fur became prime, except that the law permitted a farmer to kill animals destroying his crops. I went around to see what was happening.

For 10 or 15 rows from the edge, the corn was really ruined. Stalks were broken down, ears torn off—it looked like typical coon work, only something didn't seem quite right. For a little while, I couldn't figure out what it was. Then I realized there were no coon droppings. These are $\frac{3}{4}$ of an inch to an inch in diameter and three or four inches in length. Usually several are found at a place. They contain wild cherry or grape seeds, bits of crayfish shell, or undigested pieces of corn, depending on what the animal has been eating. They are most often found on logs

and fallen trees, especially those propped up several feet above the ground.

There were no fallen trees in the cornfield, but a coon would hardly have been so fastidious as to go back down the hill to a coon rest room. The ground in the cornfield was too hard to show any tracks, but I found a few large claw marks and a single porcupine quill.

After eight porcupines had been caught in nearby trails, the "raccoons" stopped bothering the corn.

Probably the most frequently overlooked signs of these animals are trees which have had their loose bark knocked off by coons climbing them. Any tree which appears smoother than normal, or which shows brownish places on the gray where flakes of bark have been dislodged, should be closely examined for claw marks.

A coon den is a valuable find. A half dozen or more animals sometimes live in the same tree, and such dens are often used for years. Of course, you won't be trapping in the den, but a few bait sets 100 feet or so away are effective when the coons come out during a winter thaw.

Fox or Skunk?

Fox sign is often confused with that of skunk. Both dig little holes in old fields and pastures for grubs and insects, but they are easy to tell apart. Since skunks will hunt tiny insects too small to interest a fox, numerous shallow pockets two inches or less in depth are usually the work of skunks. A hole dug by a skunk is pointed like an ice cream cone; one dug by a fox is rounded on the bottom. A fox also throws the ground back a foot or more; a skunk pulls it out and leaves it closer to the edge of the hole.

Fox droppings are often quite similar to those of coon. In the fall, they frequently contain grape and wild cherry seeds, hair and bits of bone, and the remains of grasshoppers and beetles. They are usually on a bare spot or where the grass is short,

preferably on an elevation such as a mound, but not on logs and fallen trees like those of a coon.

The fox sign every trapper hopes to find is a den where a litter of pups has been raised. They have left it months before, and probably will never return to it, but they will still be in the vicinity.

A red fox den is easy to recognize by the scraps of fur and feathers lying around the entrance, often several bushels of them. It is tempting to think of every pheasant wing and rabbit skin as a piece of game killed, but at least some represents carrion.

I once found a red fox den with a calf leg, part of a small pig, and a lot of white chicken feathers nearby. I learned later that a farmer had dragged a dead calf and a pig into a gully and neglected to bury them, and I knew that a nearby chicken farmer was in the habit of hauling his dead poultry out in the field with the manure.

Muskrats leave more sign than any other Pennsylvania furbearers except beaver. Much of their time is spent along the strip of mud separating the land from the water. Their hind feet are a bit smaller than those of a small coon, and pointed at the heel. Their front feet are much smaller, and they drag their tails as they walk. There is no difficulty identifying muskrat tracks.

One of their most noticeable signs is shredded grass stems lying in the water where muskrats have dug out and eaten the roots. Often these floating stems will indicate a colony of muskrats farther upstream. Diggings

along the water's edge are usually the work of muskrats and indicate they are living nearby, for they don't go farther than necessary for their food.

When the water is low and clear you can often see a streak of muddy water and trace it to where a muskrat is working in a burrow with an underwater entrance. Mark the place well, for four to six muskrats may be living in a single den, and den sets are legal if the trap is under water.

On stones and logs along the shore or protruding above the water you will find the oblong, dark-gray scats of muskrats. About the size of kidney beans, they are deposited in groups of half a dozen or more. Anything entirely surrounded by water is more apt to be used as a muskrat rest room than it would if it was on the shore.

Biggest Signs

However, it is in the marshes that muskrats leave their biggest signs—houses protruding 18 inches to more than three feet above the water line. They are built from grass and weeds mixed with mud, and an average of four or five rats will be living in each one. Trappers with complete control over a marsh figure that they can take three rats per house and leave enough for natural losses and breeding stock.

Other signs, such as feed beds and runways, also are found in the marshes, but who needs them? Just count the houses, multiply by three and you will come pretty close the number of muskrats you should catch.

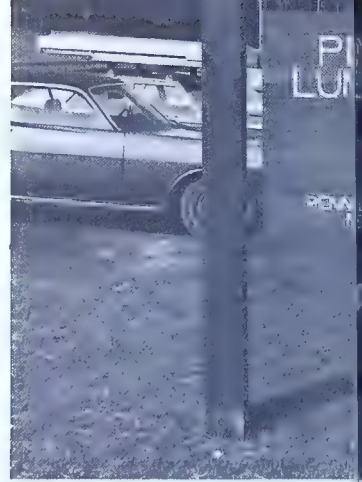
If the signs aren't against it, that is, "No Trapping" signs, I mean.

Good Sleepers, Though

Contrary to popular belief, black bears do not hibernate. They spend winter months in a deep sleep from which they awaken and even emerge from their dens to forage.

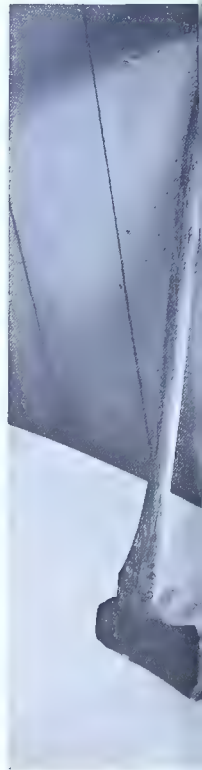
Handy Hookup

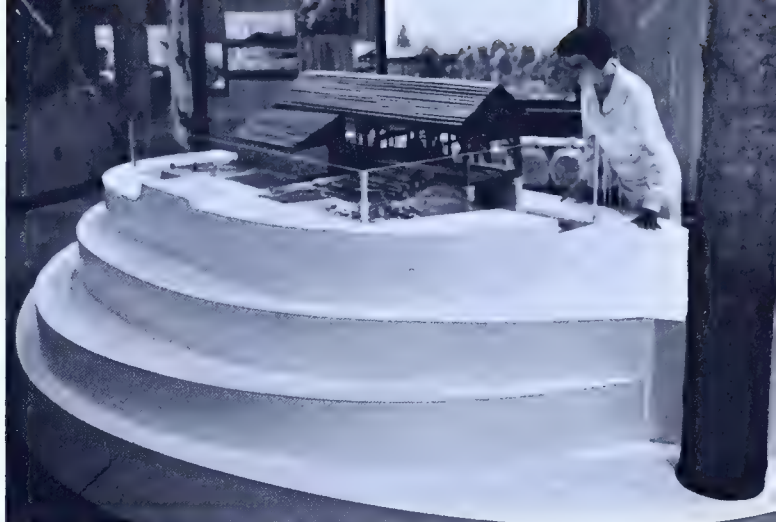
Birds are able to sleep, without falling from trees, by the muscles in their feet which close tightly around a limb when the leg is bent.



Woodsme

ONE OF THE biggest try is held each year in Potter County. Last year was the first day! Woodsmeets are held in crosscut saw events, and there are home displays, arts and crafts, and Pennsylvania Lumber Museum. Last year the dates are August 1-3 out of Pennsylvania's best. The Carnival can't be beaten.

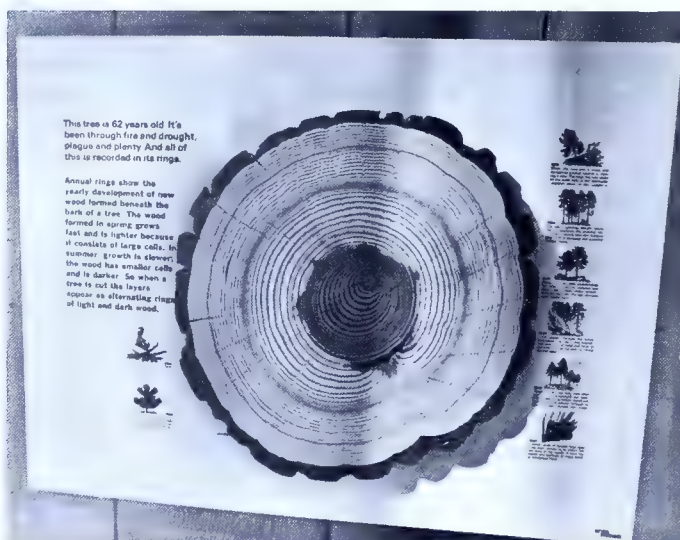




Carnival

k festivals in the coun-
 y Springs State Park in
 0 persons attended on
 y parts of the country
 chopping and other
 ontests, logging equip-
 , at Denton Hill, the
 isitors' enjoyment. This
 or a glimpse seemingly
 past, the Woodsman's

By L. James Bashline





FIELD NOTES

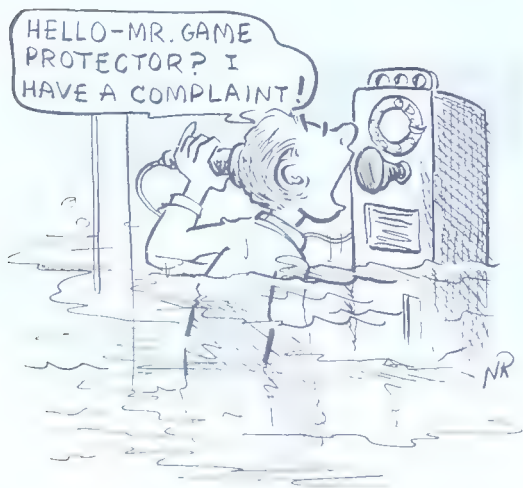


Where Else?

LYCOMING COUNTY — A hunter in the Forksville area of Sullivan County was explaining to some friends in a local tavern why he had not bagged a gobbler during the spring season. Regulations specify that only bearded turkeys are legal. This nimrod reported seeing several birds but said he was unable to spot any beards *hanging from their bills* so he didn't shoot.—Land Manager D. E. Watson, Williamsport.

32-Year Vigil Rewarded

BERKS COUNTY — After investigating reports of black bear being seen in my District for the past 32 years and finding them negative, we finally had a positive report in May. The bear was sighted at various places for nine nights until he moved over into Lancaster County. Many who saw him were afraid to tell their friends lest they be accused of taking one too many for the road—but he was authentic.—District Game Protector J. A. Leiendecker, Reading.



So Long, Charlie

CENTRE COUNTY—We in Centre County — in fact, Pennsylvania — must say good-bye to a truly great wildlife personality. Dr. Charles Cushwa of the Cooperative Wildlife Unit at Penn State University has accepted a position with the United States Forest Service and will direct a wildlife and wilderness area unit in Alaska. Dr. Cushwa has done much to strengthen the bonds between sportsmen and professional wildlife people and has always found time to work with many people, from Cub Scouts and 4-H children to sportsmen and professional groups, throughout the Commonwealth. Regardless of the task, Dr. Cushwa always made it clear you were working with him and not for him and your work was also his work, be it woodcock surveys or jacklight patrol. Good-bye and good luck, Charlie—you will be missed. — District Game Protector, J. L. Wiker, Pennsylvania Furnace.

Busybodies

ERIE COUNTY — Beaver are in many ways a desirable animal for they create habitat that often helps wildlife, but in this area they conflict more and more with man's activity and land use. It looks like a good part of the summer will be spent in live trapping and transferring these animals to satisfy complaints.—District Game Protector E. Simpson, Union City.

Gotta Have Faith, A. D.!

BRADFORD COUNTY—I have received several letters from Pennsylvania, New York and New Jersey GAME NEWS readers concerning my field note in the April issue about the parrot-like bird which came in to a feeder last winter. Three writers identified it as a monk parakeet and one enclosed a newspaper clipping from the March 28 Outdoor Section of the Newark *Sunday News* that contained a description of the bird. I showed the clipping to the feeder owner, Almon Baster of Troy, and he said it perfectly matched the bird. I was amazed that any GAME NEWS readers could come up with the proper identification from my meager description.—District Game Protector A. D. Rockwell, Sayre.

Just Call Me “Reynard”

LANCASTER COUNTY—A Game Protector with a name like Fox has to take a lot of joking, but the high point so far came last week when we live-trapped a bear and a local newspaper article was headlined “Fox Traps Bear.” After several days a fellow who apparently read only the headline approached a Food and Cover employe in Lancaster County, and asked “How did the Game Commission catch that bear in a fox trap?” Do you think its time to find an alias?—District Game Protector T. L. Fox, Ephrata.

Don't Miss It!

MONTOUR COUNTY—To prove that we do provide eye-catching headline material for our local press, I submit this little bit. After presenting a program to the Point Township Garden Club, a local newspaper ran a headline “Garden Club Sees Film for the Birds.”—District Game Protector R. W. Donahoe, Danville.



That's True

ERIE COUNTY—A deputy picked up a fawn whose mother had been killed on the highway. His wife thought it would be kept nice and warm if it was put to bed with them. A deer being a nocturnal animal, for hours it climbed about in the bed, keeping the deputy and his wife awake. They got to arguing, with the end result being that he slept on the couch, the fawn went to the baby's play pen, and the wife cleaned the car. When asked why she cleaned the car at 4:00 a.m., she replied, “You have to do *something* when you get mad!”—District Game Protector W. Lugaila, Waterford.

Dedicated Mother

ELK COUNTY—During the spring gobbler season several nests were reported. One of these nests contained 16 eggs and was located along an old logging road, within five feet of the edge of the road. Many hunters traveled this road on foot looking for the wary gobbler. But through all this disturbance, old mother turkey kept to her task. Shortly after, she successfully hatched 15 of the eggs and is now trying to raise her large family.—Land Manager R. J. Rea, Wilcox.



The Word Is . . .

BUTLER COUNTY — Recently I took the Bruin elementary fifth graders on a nature hike and field trip to a local beaver dam. The topic of conversation moved from one thing to another and finally came to the different classifications of trees. When asked what word beginning with “C” would classify most trees which stay green all year and which bear seeds in cones, someone quickly replied “Coniferous.” I then asked what word beginning with “D” would describe the type of trees which lost their leaves, expecting an answer of “Deciduous.” A boy standing near me raised his hand. “Do you know the word?” I asked. “Dead,” he replied without batting an eye.—District Game Protector N. Weston, Boyers.

Anything You Wanta Know . . .

CLEARFIELD COUNTY — Talk about weird requests—the telephone rang and I answered, and the man on the other end of the line wanted to know if I could give him the recipe for “Snitz and Knepp.” He knew I was from Lancaster County and thought I would be able to help him on this subject. I couldn’t, but my wife came to the rescue and we were able to fill the request.—District Game Protector C. L. Keller, Clearfield.

How’s That Again?

POTTER COUNTY—State Trooper Jack Felicita told me of a man that followed him over the Dutch Hill road from Coudersport to Inez, a distance of approximately four miles. About midway, two large turkey gobblers crossed the road in front of them. Each watched as the birds disappeared into the woods. Later the man told Jack quite sincerely that those birds were two of the largest ring-necks he had ever seen. — District Game Protector H. R. Curfman, Coudersport.



Good Caller, Bad Time-Teller

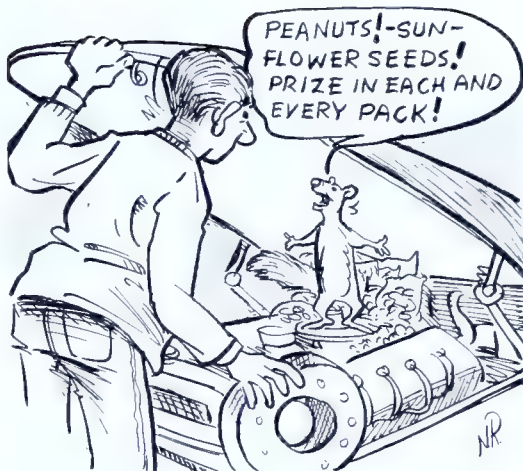
VENANGO COUNTY — One Oil City man has been bragging that he is tops in using a turkey call and he can call just about anything in with one. During this past spring gobbler season, he called in hawks, crows, songbirds, deer, two turkeys and two Game Protectors. It seems that when he finally got the two turkeys to come in, Deputy McDonough and I answered his call about the same time, since the season ended about 1½ hours earlier. One thing I can say, he was good natured when he paid his fine and doesn’t hesitate to tell the story on himself.—District Game Protector L. Yocum, Oil City.

The Big Cricket

WYOMING COUNTY — Recently while conducting a woodcock survey near Lake Carey, I stopped the car and made a check of birds present on the singing grounds. A young fellow saw me near the car and came over, curious to know what I was looking for. I made reference to the *beeping* call of the woodcock and asked if he knew what that was. He replied, "Sounds like a big cricket to me." I then pointed to the woodcock which was making his spiraling upward flight and said, "There's your cricket, what do you think of him?" He made no comment, but I marveled at how little he knew of wildlife even though he lived in the country. I suppose a fellow 17 or 18 is more interested in other kinds of wildlife these days.—District Game Protector A. J. Kriefski, Tunkhannock.

Can't Please 'Em All

MONTGOMERY COUNTY—I read the following passage in "Colorado Outdoors" with an "Outdoors Saskatchewan" source. I think it pretty well describes some of the problems a Game Protector anywhere must face: "If the conservation officer ask to see your license, he's insulting. If he takes your word for having one, he's corrupt. If he arrests a violator, he's showing how rough he can be. If he gives the culprit another chance, he's showing favoritism. If he labors day and night to enforce the law he's a tyrant. If he relaxes at all, he's a shirker and a crook. If he talks fish and game conservation, he's maudlin. If he keeps quiet, he's not interested in his work. If he accepts suggestions or advice, he's incompetent. If he works out problems for himself, he's a know-all. If he acts like a gentleman, he's too easy. If he acts firm, he's unfair and a rascal."—District Game Protector Schmader, Collegeville.



Savin' for a Rainy Day

MONROE COUNTY—Squirrels in the attic are quite common, but they don't seem satisfied with that location in Mt. Pocono. Earl Brock had trouble with his car running poorly and jerking and bucking every time he slowed to stop. After much looking, he found that our friend the squirrel had used his car's air cleaner for a storage bin, and had it packed with sunflower seeds, peanuts and bird seed.—Land Manager G. W. Wendt, Pocono Summit.

That Figures

CLARION COUNTY — I was stopped by a motorist in Highland Township who proceeded to describe a snake that had bitten him on the foot. From the description, it appeared to be a "milk snake." He said he had killed the snake and was fearful that he might become sick or die. I told him the snake was harmless. He said that as soon as he killed the one, another appeared and he killed that one also. When informed that this was the mating season, he stated he was probably wrong for killing the snakes, as he would probably be mad too if someone had interfered with his courtship.—District Game Protector A. N. Pedder, Clarion.



Never a Dull Moment

CLEARFIELD COUNTY—For a Cub Scout meeting in Ramey, the boys were required to collect objects and show them to the group. One den gave a presentation on different birds and their calls. I never knew that a whippoorwill went “cluck, cluck” and a tweety bird goes “tweeter, twit-twi.” Another den was to bring in an assorted display of pine cones, rocks, and glass, and one boy, Mike Rerko, was to show a minnow, but he presented a crab (crayfish) in a jar of water. It seems that Mike had found the crab when he caught the minnow and placed them both in the jar, and since the crab ate the minnow, he brought the crab.—District Game Protector J. R. Furlong, Ramey.

How's That Again?

HUNTINGDON COUNTY—While working on our Safety Zone program, Deputy Snyder of Warriors Mark asked the landowners if they were receiving **GAME NEWS**. One lady's reply was, “Oh, yes, my husband and the boys can hardly wait till the next issue comes out. We think it's wonderful. I think those “field funnies” are the best. Does all that stuff really happen?” Could this be a new title for this section of the magazine?—District Game Protector E. N. Gallew, Alexandria.

Masked Bandit Strikes Again!

INDIANA COUNTY—A masked bandit recently terrorized a card and gift shop in Indiana, then took refuge in the suspended ceiling. He must have been overweight, because he broke through the ceiling tile, dropped to the floor and jumped into a display window filled with delicate novelty gifts. After causing a certain amount of concern and excitement, the raccoon leaped from the window and hastily departed through the store's front door!—District Game Protector J. E. Deniker, Indiana.

The Question Is . . .

CLARION AND JEFFERSON COUNTIES—During a recent weekend visit back to my home in Mifflin County, I overheard a conversation where chipmunks were referred to as “ground hackies.” This sounded rather humorous after living in another part of the state for a couple of years and not hearing this expression for awhile. Now I wonder if this is just a local nickname, or how widely are chipmunks called “ground hackies?”—Land Manager L. L. Harshbarger, Knox.

Pymatuning Problem

CRAWFORD COUNTY—All districts have certain problems and mine is no exception. A highly traveled road known as the Spillway separates the main lake of Pymatuning from Sanctuary Lake. Beaver frequent this area and some are killed on the road. Three were killed this year through May, all in the 30-lb. class. Several ducks also have been killed on this stretch of highway. I certainly believe in the sign the Highway Department puts up throughout the state—“Give Game A Brake.”—District Game Protector L. V. Haines, Linesville.



CONSERVATION NEWS



By Ted Godshall

Deer Season Outlook Good

THE OUTLOOK for Pennsylvania's 1971 deer season is again good for the hunters, the Game Commission says.

From a biological or game management point of view, the outlook is excellent, because the whitetail herd is now pretty much in line with range conditions and some habitat improvement may now be possible.

Overall, the range is fairly well stocked, with isolated exceptions, although sportsmen probably will not tag as many whitetails in 1971 as they did in 1970.

A number of persons who reported failing to sight many deer last winter said they saw plenty of whitetails this spring and summer.

Winter deer mortality was relatively light during 1970-71, again with local exceptions, and almost inconsequential when compared with losses during the 1969-70 winter.

Fawning went well, and it is believed that this year's reproduction was equal to or greater than last year's, despite an overall reduction in the size of the herd. This should mean there will again be a fairly good number of antlerless deer available for the state's sportsmen this fall.

The outlook is reflected in the allocation of antlerless deer licenses approved by the Game Commission in June.

Not as many antlerless licenses will be available in 1971 as in 1970. This year there will be 313,850 statewide, some 24,650 fewer than one year ago. In 1970, slightly more than 46,000 suc-



CHARLES REITER, of Coatesville, and his big 8-point taken in Berks County in 1970. Antlers of the 191-lb. buck had a 21½-inch spread.

cessful hunters reported taking antlerless deer.

Since there will be fewer antlerless licenses available this year, it should be expected that the antlerless deer harvest will be lower than in 1970. Experience shows that statewide 7 or 8 antlerless licenses must be issued to harvest one antlerless whitetail, so an antlerless harvest in the vicinity of 40,000 would be a reasonable expectation in 1971.

Actually, the 7 or 8 licenses per antlerless deer ratio does not hold in every county. In some counties an antlerless whitetail is taken for every four antlerless licenses issued. In other



DEREK STINE, 14, of Catawissa RD2, and fine 10-point, 165-lb. buck taken during the past season. Trophy had a 17-inch antler spread.

counties it may require as many as 52 antlerless licenses to harvest a single antlerless deer.

Then, too, there are many other factors which affect the harvest of deer. When there are fewer hunters, for example, the success ratio drops because there are less sportsmen to stir up wildlife and fewer shooters for whitetails to encounter.

Weather conditions also are important, as another example. Ice and snow storms prevent deer from moving and keep hunters out of the woods. Warm temperatures are not particularly conducive to a bigger bag. The result under such circumstances is fewer whitetails harvested.

Two years ago there were substantial winter deer losses in some drainages in the state, in terms of direct and indirect deaths. The direct losses were those whitetails found. The indirect losses were unborn fawns of females who starved, as well as undernourished, bred females who survived but were unable to carry their fawns through delivery.

There was further (although less serious) winter loss in some of these drainages in 1970-71. These losses will have some effect in 1971 on the size of the herd; it affected the allocation of antlerless licenses, and some sportsmen should take into account the results before selecting their deer hunting sites this year.

The female fawns that would have been born last year were not available to hunters during the 1970 antlerless season and did not produce their own fawns in 1971. The male fawns that would have been born in 1970 will not be in the woods sporting trophy antlers this fall.

By reducing county allocations of antlerless licenses in areas thus affected this year, less hunting pressure will be applied this fall, helping underpopulated deer areas to recover. At the same time, other areas not suffering from under-population of whitetails in the affected counties will be able to absorb any increase in the herd that might occur as a result of reduced antlerless license allocations for a period of one year.

Many hunting camps are located in some of these drainages which presently have fewer deer, and sportsmen from these camps might do well to consider hunting this year in other areas which have more whitetails.

Reduced in 28 Counties

Antlerless deer license allocations this year were reduced in 28 counties, increased in 22 counties, and remained unchanged in 16 counties. In nearly all of the northcentral counties, which traditionally provide the most whitetails, the antlerless allocations were reduced from 1970 levels.

The outlook for buck hunters is also good, although the harvest of antlered deer in 1971 is expected to be lower than the figure for 1970.

In 1957 the Game Commission drew up its present deer management plan which calls for a sustained annual buck harvest of 35,000 to 40,000 animals. This figure has been exceeded

by a wide margin every year since 1962—a bonanza for hunters but a detriment to the range.

It is expected that the 1971 antlered deer harvest will be slightly larger than the anticipated antlerless harvest of some 40,000 whitetails.

Ordinarily 30 to 35 percent of the antlered deer harvest in many northern Pennsylvania counties would be made up of spike bucks. In 1971 the percentage will be higher. Spike bucks will approach or exceed 50 percent of this year's antlered deer harvest in parts of Potter, Warren, McKean, Forest, Elk, Cameron, Clearfield, Clinton, Wayne, Pike, Monroe and Carbon Counties. Range conditions (food supplies) are the main reason.

The 1971 fawn crop should mean a good buck harvest in 1972 and following years. Of course, bad weather during the latter part of the coming winter could influence antler development which would be noticeable during the following buck season.

A succession of unusually mild winters and underharvested whitetails in the early 1960s led to an explosion of the deer population and required heavy harvesting during the latter half of the decade to bring the herd into line with available food supplies. Now the deer population is at a relatively manageable point, but recovery of the range will take several years before it is evident.

Thus, an antlerless season was established for 1971. Basically, license allocations are higher than in 1970 in counties where it is necessary to further trim the size of the herd, allocations are unchanged where there is no need for a shift in the number of deer, and allocations have been cut where it is possible for the population to expand.

Overall, if the 1971 whitetail harvest is about as expected, and the coming winter is not severe, the 1972 deer herd should show a moderate increase in size.



DGP HARRY NOLF receives award for outstanding exhibit at 1971 Sport, Camping, Vacation and Travel Show at the Philadelphia Civic Center.

LAWRENCE LARSON, John Dominkoski and Stan Bombaski, of Blossburg, erect wood duck box on Fall Brook Creek in Tioga County.



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

Logan's Ferry Sportsmen's Club



SOME OF CLUB'S 40 instructors: Jesse Holmes, Marge Werminger, Evelyn Rusnick, Marie Kiser, Don Wall; back row, chief instructor John Werminger, Ken Meck, Dan Racieppe, Henry Alvine, Chuck Baynes, George Rusnick, Jim Smith, Larry Fellers and Jim Montgomery.

WHILE THE anti-gun radicals are lobbying in the halls of Congress and the radio and television stations are contorting the facts, there is one group of sportsmen in western Pennsylvania who are trying their hardest to educate men, women, boys and girls alike in the safe handling of firearms.

Logan's Ferry Sportsmen's Club, Plum Boro, is justifiably proud of its role in the field of sportsmen education over the past year. More than 800 people—male and female, young and old—have received firearm training at Logan's Ferry since the club began its intensive education program only last May.

Men and women from throughout

western Pennsylvania and eastern Ohio have taken advantage of the program now offered at Logan's Ferry.

A little over a year ago the club was just another sportsmen's group catering to its members and offering little to the general public. Today, Logan's Ferry's year-old education program offers hunter safety, and home safety, basic rifle, pistol and shotgun marksmanship courses, as well as certified National Rifle Association rifle, pistol, shotgun and home safety instructor courses, along with certified Pennsylvania Game Commission hunter safety instructor courses.

Unlike many of the area's sportsmen's clubs, Logan's Ferry is not strictly a male domain. In the last year many area women and girls have become interested in the club's activities and training programs.

300 Junior Members

The junior club members, all 300 of them, are perhaps the club's most important product. Since Logan's Ferry instituted its extensive training program, youngsters from throughout the area have participated in the various courses.

One of the best shooters among the juniors is a little eight-year-old girl who never had shot a firearm before attending the course last fall. Today, Ruth Ann Swartswelder, daughter of Mr. and Mrs. John R. Swartswelder, of Milltown Road, Penn Hills, shoots in the high 40s using a 50-point target and following NRA competition rules. The Mark 10 target rifle the little lass uses is bigger than she is!



The Timber Rattlesnake

Crotalus horridus

By Leonard Lee Rue, III

THERE IS A reason and a purpose for everything, although I must admit that I am often hard put to find it. Such things as black flies, mosquitoes, poisonous snakes and poison ivy seem to be put here just to plague mankind. Oh, I know, I know—the larvae of black flies make good trout food, male mosquitoes pollinate flowers, poisonous snakes help to control rodents, and poison ivy provides food for many types of wildlife. But couldn't there be an easier way of doing all this? Or is it possible that we—mankind—may be the misfit in the scheme of nature? After all, these other creatures were here before we were.

Of the aforementioned nuisances, the poisonous snakes, such as the rattlesnakes, are the most feared. Fear grows out of a lack of knowledge. We

can dispel fear through learning the facts about that which we fear. Then fear can be replaced with respect. Respect does not make a rattlesnake any less poisonous but fear endows the snake with properties it does not have.

Many species and subspecies of rattlesnakes are found in the United States, ranging in size from the little pygmy rattlesnakes up to the large Florida diamondback. Pennsylvania has only two species, the massasauga and the timber rattlesnakes. The massasauga is found in the western tier of counties, while the timber rattlesnake is found throughout almost all of the state.

Although all of Pennsylvania lies within the timber rattlesnake's range, this snake is usually found only in the hilly or mountainous regions. And usu-

A NATURALIST'S VIEW of Wildlife



ally the snake is not easily found at all—it has to be searched for. Although the timber rattlesnake was once very common, today it is suffering, as are many wild species, by the crush of civilization. The growth of our population, the shortened work week, and the affluence of our society give more money to more people to travel more and so more people are invading the haunts of wildlife. Most people, upon seeing a snake, panic and if possible kill it no matter what kind it may be. The affluence also allows more families to have more than one home. People having a vacation home usually want it either at the shore or in the mountains. When they buy land in the mountains, bulldozers come in to clear the land and whatever wildlife that was in the area, snakes included, is forced out.

I have lived for the past 22 years on the Kittatinny Mountain Range that extends from New York through Jersey and over into Pennsylvania at the Water Gap. Part of that time I worked as a camp ranger at a Scout camp. We would usually find an average of three rattlesnakes and three copperheads a year in the mountain. That may well be three more rattlesnakes and three more copperheads than you care to find in any year, but the importance of the fact is that was the total number of snakes found by over 2000 boys and staff members who spent all their time in the woods all of the summer. In recent years they have a hard job finding enough snakes to exhibit in their nature lodge.

The point I am trying to get across is that care should be used when you

are in a known snake area—but care should always be taken in the out of doors. Bear in mind that a rattlesnake is not aggressive. Its venom is intended to kill its prey, not to bite human beings. The fact that it can strike and poison humans is incidental. And even if you are bitten, your chances of survival are excellent.

I believe that Dr. Henry M. Parrish of the University of Missouri's-Columbia School of Medicine has compiled the most complete records of snakebites in the United States. His records show there are about 6675 cases of poisonous snakebites in our country each year, with Pennsylvania averaging about 70-75. But the average annual death rate for our nation is 14-15 per year. Insects kill far more people per year than do poisonous snakes.

Protective Boots

When I am in the woods I usually wear lug-soled leather boots with 10-inch tops, my blue jeans hanging loose over the outside. This is good snake protection for most occasions. If I am hunting snakes I wear knee-high Gokey snakeproof boots. I always watch where I put my hands while working around rocky areas and am careful before I sit down on a rock or a log. And I always carry a Cutter compact snakebite kit which I know how to use. This snake kit is about the size of a shotgun shell and contains three suction cups, tourniquet, scalpel, antiseptic and instructions. With the above mentioned preparation and knowledge, I free myself from worry and can enjoy being out of doors.

The rattlesnake is a pit viper, which means it has a small gland opening on each side of its head between the nostril and the eye. The pit would accommodate the shaft of a wooden match for about a quarter of an inch. This gland is a heat sensing organ so delicate it can recognize temperature differences of 1/10 of one degree Fahrenheit. This enables the snake to

hunt at night. Incidentally, all snakes are more active at night than in the daytime because the mice and rats that make up the bulk of their diets are more active after dark. A person with normal hearing locates the source of a sound by turning his head until the sound comes in each ear equally. The snake does the same thing with this temperature gland, his head moving sideways until the prey's body heat comes in each gland equally. Then the snake strikes, knowing full well that it is on target. Any Pennsylvania snake having this pit is poisonous, because this is also a characteristic of our only other venomous species, the copperhead.

Like Hypodermic Needles

A rattlesnake's fangs resemble medical hypodermic needles. The fangs of timber rattlesnakes sometimes reach a length of three-quarters of an inch. They are hinged and in repose fold up against the roof of the mouth, pointing backwards. The poison glands are located behind the snake's eyes, which may account for the enlarged triangular-shaped heads of the pit vipers.

When the snake strikes the fangs are erected and the snake opens its mouth so wide that they project almost straight ahead. As they enter the prey's flesh, soft tissue surrounding the fangs in the snake's mouth is pushed back, triggering a muscle that squeezes the poison gland, pumping the venom through the hollow fang and into the wound.

The snake usually retracts and recoils instantly. Large prey, or an aggressor, may be bitten repeatedly. The venom of a rattlesnake is predominantly hemotoxic, which means it destroys red blood cells and body tissue and affects blood coagulation. It also lowers the body's resistance to disease. Small prey soon go into convulsions, die and are swallowed whole. A snake can swallow prey up to three times its own body diameter, such as a rabbit or a squirrel.

If a person is bitten by a rattle-

snake, the fang marks usually show quite plainly. Pain is almost instant and intense. Vomiting may occur and swelling of the affected part is fast and dramatic with a hand or leg almost doubling in size. A tourniquet applied between the bite and the body, if on an extremity, tends to keep the poison from spreading. But the tourniquet should not be tight enough to restrict the arterial flow of blood coming from the heart.

If a snakebite kit is at hand, pour the antiseptic on both the scalpel and the wound. Incisions through the fang marks should be made longitudinally with the limb. Do not cut crosswise as this may sever nerves, tendons and blood vessels. Suction should be applied at once to withdraw as much lymph and venom as is possible. In emergencies the cut may be sucked with the mouth. Do not give alcohol or stimulants and keep the patient as quiet as possible. Increased activity speeds up the heart, resulting in the rapid spread of the poison. Antivenom should be administered only after a testing to make certain the victim is not allergic to the horse serum from which it is made. Preferably, this should be done by a doctor.

I am often asked what a person should do if he suddenly finds himself close to a snake. My answer: *Stand still*. Allow the snake to retreat, which it will be only too glad to do if at all possible. I have stood still and had a snake crawl right over my boots. Snakes are not interested in biting people.

How far can a snake strike? Unless the snake is up on a ledge, and is striking down, or has its tail braced against something solid, it can strike one-half to two-thirds of its body length. I have no hesitation about getting down on my hands and knees while three to four feet away from a three-foot rattlesnake. I don't recommend this practice to the novice, but it allows me to get the photos I want and is not really dangerous because I know the snake's capabilities.

Does a snake always rattle before it strikes? No! A rattlesnake does not deliberately rattle to warn people, nor does it have to rattle before striking. A snake rattles because it is nervous. When we are nervous, our knees knock and a rattler's tail wags.

Can you tell a snake's age by its rattles? Again, no. A rattlesnake from the time it is born has a terminal "button" on the end of its tail. This button is the first joint of what will develop into the snake's rattle. Nothing inside the rattle causes it to make a noise. The sound is made by the loosely connected sections of rattle rubbing



EASTERN TIMBER RATTLER sheds its skin, as shown here, three or four times each summer. Each time it gets a new segment of rattle, but these often are broken off as it crawls.

against one another from the vibration of the snake's tail. The rattle is of a material similar to a human's fingernail and just as easily broken. If the snake is getting sufficient food it will shed its skin three or four times in one summer. When this occurs, the skin splits over the snake's nose and peels back inside out. It even lifts a plate, nature's first contact lens, right off the snake's eye. The entire skin usually comes off in one piece. Every time the

snake sheds its skin, it gets another segment of rattle. But as the snake crawls around through the rocks, etc., it often breaks off some of the rattles, so the number of rattles is not a true indicator of age.

A female timber rattlesnake will give birth to her young in late summer or fall. Six to 18 young may be born in one litter. At birth the young come from the mother's body in little transparent sacs which soon split, from whence the baby rattlers, about 11 to 12 inches long, emerge.

The timber rattlesnake comes in three general color phases with an intergrading of shading so that it is hard to tell where one phase starts and the other leaves off. In a litter of nine, three may be sulphur yellow, three olive green, and three black. However, no matter what the color, the tail will be black. The colors just mentioned will be the snake's base color. It will also have many dark, light-edged, arrowhead shaped markings running down the middle of its back.

By early October most rattlesnakes will be at the den sites where they intend to pass the winter in hibernation. Extremes of either heat or cold will kill any snake. Most denning sites are among rocky ledges or talus slopes on the eastern or southern side of a hill or mountain. Pennsylvania has a number of these sites.

Snakes of other species will also gather at such dens and all may hibernate together, sometimes en masse. I realize an old wife's tale claims if you have black snakes in the area you will never have any poisonous snakes. Nonsense! It is true that occasionally—perhaps I should say rarely—a black snake and a rattlesnake will fight and the black snake can and will kill the rattler. Black snakes are immune to the rattlesnake's venom and the rattler has no other defense. L. L. Logan, a former Pennsylvania Game Protector, witnessed just such a fight but I have not. I have kept both rattlesnakes and black snakes in the same box for dis-

play with never a sign of animosity between them.

The black rat snake is also called the pilot black snake. Black snakes are always alert and prone to move as soon as someone approaches them. In May, when the snakes are first coming out of their dens, they lie about in the sun for a week or so before scattering to feed over the summer. If the dens are approached, the black snakes will retreat into the safety of the dens before the rattlesnakes do. This has been seen often enough that some people thought that the black snake was actually acting as a pilot or guide for the rattlesnakes to help them to escape, too. And I have to say nonsense to that myth, too.

I do not advocate the elimination of any species, although in some instances they must be controlled. If rattlesnakes are a menace to humans or to livestock in a particular area, they can be caught and removed or killed if necessary. In their native haunts, let them be if at all possible. Far too many people kill every snake they see. I well remember, when I was about nine or 10, reading an article by a naturalist who told how he came across a pile of rocks in a pasture. Curious about the purpose of the heap, he kicked some of the stones aside, disclosing the crushed body of a harmless garter snake. His account was called "A Monument to Ignorance."



AUDREY MAGOUN, OF NEW CASTLE, a senior at the University of Maine, is presented with the 1971 P. F. English Award by PGC Executive Director Glenn L. Bowers, on behalf of that university. This award is given by the Northeast Section of the Wildlife Society in honor of the late P. F. English, an outstanding sportsman and educator. Recipients are students who have achieved high ranking in wildlife biology or wildlife management. Miss Magoun has been accepted for graduate study at the University of Alaska.



Camping More . . . Enjoying It Less?

By Les Rountree

MORE PEOPLE are camping today but I'm beginning to think they are enjoying it less. There seems to be too much emphasis on getting from one place to another in the least possible time and not doing anything of value while you're there. In this case, value means doing something that gives you some honest pleasure. As an example of what I'm talking about, I listened to a report the other day being given by an acquaintance to the neighborhood gas station operator. It seems that this chap had just made a whirlwind five-day tour of Pennsylvania. He had driven over 2000 miles and had visited Bushkill Falls in the Poconos, the Pennsylvania Grand Canyon near Wellsboro, the Ice Mine near Coudersport, Pymatuning Lake, Fort Ligonier, the Capitol building at Harrisburg, Independence Hall and toured the Dutch country in Lancaster County—and all this in five days, mind you!

He admitted that he had spent a lot of time sleeping in the camper while his wife drove the pickup (his

boys are seven and 12 years old) but that, by gosh, he had really seen Pennsylvania. I'm not sure how much of his state he had seen while sacked out in the camper, but he certainly had covered the highways. I'm not denying that any or all of these locations mentioned are interesting spots to visit, but how much fun was it when all he or his family could do was take a five-minute look, then back to pounding the pavement? I enjoy traveling too, but I don't want to sit behind the wheel all the time.

There are two basic types of camping/touring trips that I think are fun. When I have a short weekend, say from a Friday night to a Sunday return time, I like to pick a specific point of interest and head for it. Arrive there on Friday and spend all day and part of Sunday doing the thing that's to be done there and return home during daylight hours if possible. If more time is available, the meandering camping trip is more fun than trying to beat the clock by crowding in a dozen or more stopping-

off places. Even on the meandering type of outing a general plan should be prepared but plenty of time should be allocated for side trips and unexpected things that pop up. Never schedule so tightly that an hour spent at a spur-of-the-moment stopping-off place will upset the trip.

If you are a collector of anything don't overlook the very small towns and country crossroads that can't even be called towns. If your pack rat inclinations lean towards old bottles, books, antique firearms, stamps or what have you, it's a good bet that a question or two at the local filling station or barbershop will provide you with some good leads. City folks don't understand this, but everyone in a small community knows what everyone else is doing, has done, or will be doing. If you've been urban raised you may think it's an invasion of privacy to walk up to a total stranger and, without much preliminary discussion, come right out and ask if anyone in town collects or deals in glassware. If there is, they'll tell you right away and probably ask you a question or two as well. Small town folks are slightly suspicious of strangers but once they discover that you're not there to rob the local bank, you've made an instant friend.

Pay attention to the signs tacked up on bulletin boards in gas stations and grocery stores. In areas that are not serviced by daily newspapers on a regular basis, the hastily printed (and frequently hand done) sign is the best way to let people know what's going on. These signs advertise such things as auctions, clambakes, firemen's picnics, church suppers, county fairs, barbecues, club meetings and things you'd



IN SUMMERTIME, many roadside stands offer fresh fruit. All youngsters like it and it keeps them happy and healthy on trips.

never imagine. I once saw a sign advertising a wedding and a reception that requested anyone attending bring a gift. It was certainly cheaper than sending out invitations. I've regretted to this day that I didn't attend.

Signs that advertise a dinner or supper of some sort are usually worth looking into. If the affair is happening while you're passing through, by all means try to make it. You'll find that the price is hardly ever out of line for the quantity of food received. Church suppers are always a bargain, with \$2 or \$2.50 being the usual fee. The best cooks in the congregation handle the culinary chores and if it's a covered dish extravaganza the ladies always try to outdo each other and the hungry camper in off the street is invariably a winner. There is only one prerequisite. You must like scalloped potatoes. All church suppers have them in abundance. I happen to love scalloped potatoes so this has never been a great problem. I've attended enough church suppers (they're usually called suppers) to develop certain denominational preferences. The Catholics make the best spaghetti, Lutherans are famous for their ham, the Baptists really shine with baked beans and the Methodists and Presby-





ALL CHILDREN ENJOY hiking when the weather is nice, and Pennsylvania has many trails which provide the opportunity. Try it this summer.

terians are great bakers. If the town you're passing through advertises a bake sale sponsored by the Presbyterian ladies, don't miss it!

In traveling through farmland during June I'm always on the lookout for wild strawberries. Look for hayfields that haven't been cut and pasture edges that haven't been grazed heavily. It's a bit of a chore to get out and check a field occasionally but the reward is well worth the bother. Ask at the nearest farmhouse for permission to pick them. I've never been refused. This time of the year, the wild fruit to look for is the blackberry. These are easier to spot than strawberries but perhaps more difficult to pick because of the thorns. If you can

stand a few scratches, a half hour's picking will yield a couple of quarts. A dish of fresh blackberries with milk or sugar to embellish them is top eating. If you really want to be extravagant buy a pint of heavy cream to pour on top and you'll immediately become a confirmed blackberry watcher. Burnt and cutover woodlots are the places to find them and so are the edges of country roads that haven't been sprayed by herbicides. Along with the blackberries you may find some wild red raspberries and, if you're really lucky, you may find some black raspberries. They are shaped just like the red ones except that they are deep purple in color. For my money they have just about the greatest flavor of any fruit in the world.

Premium Local Event

Practically all communities, regardless of size, have one event each year that is the premium local social affair of the year. There are bean soup festivals, rattlesnake hunts (that's right, held in Morris, Pa., each spring), horse pulling contests, lumberjack contests, huckleberry picking championships, antique shows and auctions galore and at least a thousand pancake breakfasts. The larger towns and cities have something going every weekend and some one of the special events will appeal to each person in your camping party.

It's a little late in the year to tell you about it, but one of the outstanding events that I attended this summer was the Harrisburg Arts Festival held each year on the Memorial Day weekend. This outdoor gala features artists and craftsmen of all kinds doing their things on the open air plaza beside the William Penn Museum. Painters, silversmiths, glass blowers, woodcarvers, print makers, rug weavers, pottery makers and just about every kind of handwork imaginable is demonstrated there, and most of the produce is for sale at reasonable prices. A really good painting or object d'art can be acquired at half the

price you'd pay in an art shop or fancy boutique. Even if you don't attend with the intention of buying something it's fascinating to watch some of these people work.

In addition to the outdoor attractions, the official museum of the Commonwealth of Pennsylvania is close by and I must admit that as a Pennsylvanian I'm really proud of it. The natural history dioramas are among the finest in the United States. Entire rooms from houses which are representative of early Pennsylvania architecture have been recreated, and for the antique buff the reproduction of an old country store is worth the price of admission (if there was one). That's right, it's free! Even if you don't happen to be there during the Arts Festival, all residents of the Keystone state should see *their* state's finest attraction. You nonresidents are welcome too. Much of this nation's history and many of our traditions had their beginnings in Pennsylvania and a magnificent cross section of these beginnings is on display in the William Penn Museum. The museum is, incidentally, right next to the State

IN RURAL AREAS posters announcing regional fairs are common sights which can lead travelers to some of their most enjoyable days.



A POTTERY MAKER at Harrisburg Arts Festival attracts a crowd. Both young and old are fascinated by his ability at this age-old craft.

Capitol Building and that too is a must stop in case you haven't seen it on other trips.

For the camper who is not interested in the more civilized pursuits (and many are not) a more rustic diversion is available in northcentral Pennsylvania. Sparked by Bill Fish, publisher of the *Potter Enterprise*, a group of Potter Countians have resurrected a series of old woods trails in that county and named it the Susquehannock Trail System. Covering 85 miles, this trail is well marked and traverses some of the most beautiful woodland in the east. This is for the walking camper who can carry all the essentials on his back and can be as easy or as difficult a trip as you want to make it. Way stops are strategically located near state parks and you can leave a vehicle at any one of a dozen locations. Or, if you really feel up to it, you can start at any one point and make the entire circular route. If you want the sensation of being completely alone (it's not entirely a sensation since on some legs of the trail you really are the only human being for a dozen miles), this is one of the finest walking trails in the east. For more information, write Bill Fish, Coudersport, Pa. 16915. A set of trail maps is

available from him for one dollar.

I did a column on photography a few months back and I sure don't want to sound like a tout for Kodak, but remember to take some pictures no matter what your special outdoor pleasures happen to be. The oil lamp you bought from the roadside antique shop or the box of strawberries you bargained for in Adams County means something more to you via a photograph. Take a picture of the sale actually occurring. You'll be surprised how extra details of the trip are readily recalled when you can look at the picture some years later in the comfort of your home.

Camping offers something for every-

body. Hiking to a remote part of the world and simply sitting there and watching the trees bend in the breeze is the kind of camping that turns some of us on. I certainly won't knock this kind of trip . . . there are times that that is exactly what I'm looking for too. The gently paced, meandering tour in a travel trailer or motor home is great too, if time is allotted to enjoy, enjoy! Combination camping where the back packing gear is carried in the more deluxe camper for side trips is a great way to enjoy both extremes of camping fun. The important thing is to discover and create new and different ways to add more dimension to your outdoor adventures.

Woodchuck Season Approaching Peak

Woodchuck season is reaching its peak in Pennsylvania, and the Game Commission offers a few tips to sportsmen to make their hunting safer and more enjoyable.

Wearing of bright colored clothing, especially headgear, is strongly recommended. Fluorescent orange is the most conspicuous and "safest" color. Tan or green, and even red in late evening, are not particularly safe colors and may resemble a woodchuck at a distance. But orange, especially in a fluorescent material, can hardly be mistaken for a chuck.

Hunting chucks on a hot day or evening without any headgear is especially dangerous. A man's head may look exactly like the body of a woodchuck if it is bobbing around several hundred yards from a hunter.

The Game Commission urges woodchuck hunters to select their targets with care, and to be doubly sure of a

suitable backstop before firing. Indiscriminate shooting over the horizon can lead to tragedy.

Hunters should consider the landowners in terms of both safety and sportsmanship.

Farmers working outdoors do not always know that shooters are nearby. Sportsmen always obtain permission from landowners before beginning their search for game, and both the owner and shooter should know where the other will be.

Most farmers welcome hunters, but expect them to observe rules of common courtesy. Some hunters with little sense of decency fail to retrieve chucks they have shot, or they hang them on a fence. This is wasteful and unsightly. Pick up and utilize or bury the chucks.

Groundhog hunters are again reminded that the old practice of "road hunting" is now unlawful.

Different Methods for the Big Birds

Unlike the bald eagle, which scavenges for carrion, the golden eagle hunts live prey and is strong enough to kill a Canada goose.



MARKY BELLIS, OF WIND GAP, has a right to look pleased as she pulls arrow on way to win in Women's Class "A" Barebow. June Baeckel, Oxford, runner-up, and Nedel Moritz, Lebanon, mark scores.

Dead Shot Doings at . . .

SEVEN SPRINGS

By Keith C. Schuyler

Photos From the Author

ALTHOUGH even I could shoot at Seven Springs (they'll take any member of the Pennsylvania State Archery Association), at the last shoot I just went along for the ride. This is literally true since one of the novelties of holding a shoot at Seven Springs is the fact that archers are lifted to the top of the mountain for one of the courses by chair-lift. In the winter, this resort enjoys a heavy patronage of skiers.

In fact, one reason for attending the field shoot was to learn why it has been held at the same location for the past six years. Possibly the best an-

swer came when, at the annual meeting held in conjunction with the shoot, the question was asked: "Does anyone want to make a bid for the field tournament?" There were no takers. The tremendous job of setting up the four field courses used and the various problems of food, lodging and general accommodations makes holding the shoot a tremendous challenge. It takes facilities such as those at Seven Springs to handle this shoot.

This one actually got started a number of years ago when five clubs in the area were quite active in field shooting. These were the Gold Star

Archers, of Plum Borough; Crowfoot Archers, Murrysaville; Lenape Bowmen, Latrobe; Pittsburgh Archery Club, Pittsburgh; and Glenshaw Archers, Glenshaw. All were looking for space when the extensive facilities at Seven Springs were offered. Four courses were established by four of the clubs. One of these was abandoned because it was too long, and another was set up in its place. These four courses now comprise the facility for the annual field tournaments under sponsorship of Pennsylvania State Archery Association.

When the shoot was first brought to Seven Springs, members of the various clubs handled the entire affair. However, this proved too unwieldy and a committee was selected from membership of the State Association to handle the big task that the tournament entails. In fact, a number of the workers use up their vacations, coming directly from the target shoot at Pennsylvania State University to set up for the field shoot, which comes a week later.

Clayton B. Shenk, executive secretary of the Pennsylvania State Archery Association, serves as general chair-

STRAIGHT FROM THE BOWSTRING

man. However, at the last shoot the bulk of the work fell upon the shoulders of Robert Sarver and Bud Fowkes, who served as co-chairmen. Mr. and Mrs. Robert Cicula, Warminster, were the classification officers. Scoring and registration were the problems of Maxine Hunter, Murrysaville, and Weldon Satini, of Clairton. Those helping included Al Oswald, Pittsburgh; Judy Dalton, Glenshaw; Cookie Getz, Greencastle; Bill Knight, Pittsburgh; and LaRue Bruce, Natrona. General assistance was given by Darrell Phenicia, Greencastle, and Walter and Mary Jankovik, Marysville, and Roy Fisher.

Each contestant must shoot three of the four established courses. This consists of 28 field targets, 28 animal targets and 28 hunter targets. There is no choice in selection of courses since each archer is assigned to openings available. However, all distances are uniform and are carefully measured to meet specifications. Regardless of which courses are assigned, all archers have their ups and downs. Seven Springs sits in a narrow valley surrounded by high hills consisting of open slopes, clear fields and tall timber.

On the first day of the contest, September 12, 28 field and 28 animal targets were shot by all contestants. On the second day, 28 hunter targets were shot to produce the final tally. Winner of the tournament was the archer in each class with the highest aggregate for the three rounds.

The all-events champions are chosen from among those who also shoot the target rounds at Pennsylvania State University. The aggregate of all scores produces the state champions for the year in each class. Consequently, it is



PROFESSIONAL SHERWOOD SCHOCH on way to smashing several old records discusses scores with official Bob Sarver during the big meet.

possible to win one or the other of the two tournaments without becoming all-events state champion. It is the aggregate score from both tournaments which determines the winner.

Although some facilities of the Inn and the grounds are available to archers and their families, it is not necessary to register for sleeping accommodations. There are a number of trailer parks and other accommodations in the area. Those who do stay at Seven Springs for eating and sleeping have the use of the indoor swimming pool, tennis court, sauna bath, shuffleboard and the horseshoe pits. Other entertainment is available, not the least of which is the chairlift installed for skiers who use them in season. The round trip price of one dollar is suspended for archers using the lift to go to and from one of the courses located on top of the mountain.

For many, this has become a family weekend. Those with trailers or campers park on the grounds during the daytime. Within a short distance are Kooser State Park and Laurel Hill State Park, where accommodations are available.

The weatherman cooperated and shooting conditions were ideal for the most part in 1970. This was reflected in scores as some old-time records were smashed by contestants.

421 Completed Courses

A good attendance was assured with an advance registration of 438. Actually, 421 completed the three courses necessary to compete.

What is presented here is an overall view of the tournament which will be duplicated for the most part again this year. Only the weather, names, faces, and the final scores are unknown factors.

Although rain threatened on the last day in 1970, it held off until after the last arrow was safely imbedded in the final target.

The man to watch as the contest got under way was George Slinzer,

of Luzerne, who had come away from Pennsylvania State University with a target total of 2781 and a 276 clout for a 3057 cumulative score. Only 30 points behind him was Ralph Shope, of State College. Amazingly, at the end of the first day nothing had



CHAIRLIFT INSTALLED for skiers is utilized by archers during summer as they ride into the high country to compete in one of the rounds.

changed between the two shooters. Slinzer and Shope had identical scores of 518 for the field round in the morning. In the afternoon, they again tied with a new tournament record of 544 each for the animal round to total 1062 for the day. Robert Moore was not far behind with a 1042. They were bucking a field of 84 entries of whom all completed the day but two contestants.

Although Slinzer still had a 30-point edge going into the field tournament, it was not until the final day on the hunters' round that he asserted himself and gained another 20 points for the grand total at Seven Springs of 1596. Bob Moore continued his threat and ended up only three points behind Shope for the tournament.

Emil Lehan, Monroeville, came out on the first day with a comfortable 19-point lead over Rodney Hoover,



FREESTYLE LADY SHOOTERS Barbara Hoburg, Glenshaw; Betty Dimpter, Malvern; Jenny Aunkst, and Ruth Smouse, West Newton, at last target.

Myerstown. Roy Hall was only one point behind Hoover. However, it was Jim Laird, Hartstown, who had top tally on the final score sheet with a 1413. Hoover came in second, six points behind Laird and six points ahead of Lehan who took third. There were 33 entries in this class. Bob Naulty, Whitfield, won easily in the Youth Barebow Division with 1143 over his nearest rival, Terry Wallace, Palmyra, who had a 1082. Bill Korenda, Shenandoah, was a surprise winner with a 1413 in the Youth Freestyle Division over Keith Aunkst, Montgomery, who had 1380. Keith had won easily at State College.

Bowhunters' Division

Kermit Kemmerer, Fort Washington, was 16 points up on Robert Williams, Elverson, to take the Bowhunters' Division with a 1028. Among the out-of-state shooters, Robert Payne, Morgantown, W. Va., was tops with 1510.

With 22 entries in the Professional Division, Sherwood Schoch proved a real shocker as he smashed records right and left. He won the Division easily with an amazing 1612. His nearest competitor, Leroy Watterson, Butler, had 1557. Schoch's aggregate

added eight points to the all-time record. In so doing, he had a new record field round of 532, adding one point to the previous record score and a 552 hunter round, four points higher than was ever shot previously.

Barbara Hoburg, Glenshaw, had no trouble taking the Ladies' Freestyle Division with a strong 1465, while her nearest competitor, Elizabeth Dimpter, Malvern, posted 1372. Barbara had a big 510 in the animal round to bolster her two top scores in the field and hunter rounds.

At the end of the first day, Margaret Bellis, Wind Gap, was leading the Women's Bare Bow Division although she was being pushed by June Baeckel, Oxford. However, the final tally showed Marky was out in front with a 1065, 32 points ahead of her nearest competition.

Although Diane Odin fell 11 points short of placing in the top three at Seven Springs, she had brought with her to the Field Tournament a target total of 2761 earned at State College. Consequently, her 1330 at the field event gave her a grand total of 4091 to make her All-Events Ladies' Champion of Pennsylvania for 1970.

All-Events Husband and Wife Team for the year was Leon and Jenny

Aunkst, of Montgomery. They carded a 2843.

In the 25 years that the field shoot has been staged, various clubs sponsored the shoot at different times. They include Bloomsburg, Greencastle, Fairmount and Clairton. However, these meets were chiefly back in the days when attendance was something under the over 400 who participated last year and who can be expected at the 1971 shoot. Today, few clubs have the facilities or the members necessary to put the big one together.

A Family Affair

In addition to the normal problems attendant to setting up the tournament, there is the consideration of food and lodging within a reasonable proximity of the shooting area. Since a considerable distance is involved for many traveling to the tournament, it has become something of a family affair for a large segment of the participating archers. Consequently, there is the added consideration of food, lodging and entertainment for family members who accompany the participant. Of course, the ideal setup is one in which every member of the family competes. But, although husband and wife teams are not uncommon, it is rare when every member of the family who might be interested in attending feels sufficiently adept to enter the competition.

If interest in archery continues to grow, it is not unlikely that state competition will be broken down into regional shoots for competence, as in the world tournaments. Last year the First Eastern Pennsylvania Target Tournament was held in Bloomsburg to provide a test run and to determine how much interest would be generated. The idea was to make it possible for those who were unable to go the full distance to the state tournaments to test their ability against some of the top bows in the Commonwealth.

Why have a field tournament in the

first place, some ask. There are many and valid reasons for this competition. Foremost, of course, is simply to determine who can turn in the best scores on the various rounds established for field courses. Beyond this is the need to encourage such competition since hunting is still by far the most popular facet of archery in Pennsylvania as well as the entire country. Field shooting much more closely simulates hunting conditions than do repetitive releases at the same distance on the regular target line.

A new look at bare bow shooting has resulted in a return to the more nearly instinctive style most common to the hunting scene. It is unfortunate that more do not show an interest in the bow hunter's class, for this is an attempt to bring the formal field sport to a closer simulation of actual hunting conditions. Target archers—that is, those who use tackle designed for target shooting—still dominate all formal competition.

It is hoped here that more bow hunters will interest themselves in field shooting so that they can further develop their ability on the hunting scene by taking part in formalized competition wherever it is made available.



DAVE TIRPAK, Erie; Bob Bruce, Natrona; Jack Zapatch, South Fork; and Earl Hall, Allentown, count hits on bear target. Scoring system here is different than on conventional targets.

There is a certain advantage in holding any annual or regular tournament at the same location, providing it is satisfactory in the first place. Shooters become more or less familiar with surroundings, and there is less confusion in getting things underway. Those new on the scene quickly learn from the old-timers, and this tends to smooth out normal wrinkles in any such event.

Distance a Problem

Too, scores from previous years are a bit more realistic by comparison, since only the weather can have a different effect from one tournament to the next. The one drawback to the present arrangement is the distance which must be traveled by those coming from Eastern Pennsylvania. State College, on the other hand, where PSAA target tournaments are held on the campus of Pennsylvania State University, is more centrally located. However, unless a comparable location can be found in the center of the state, Seven Springs seems to have the nod for future tournaments.

As a site for field shooting, the grounds at Seven Springs are certainly ideal. The four courses lie on the sides or the top of a natural bowl of breathtaking beauty. Nevertheless, despite the mountainous terrain, there are no really bad target layouts from the standpoint of walking. An exception would be the southern slope, but this is nicely handled by availability of the ski lift. Topography is varied from open fields to dense woodland, with tall trees providing a leafy canopy to further simulate hunting conditions.

As to the scores, the direction seems to be up. Aside from the records that were broken, shooting in general was on the high side for the Seven Springs events.

For example, all three top shooters in the Men's Free Style Division bested Johnny Williams' winning score of 1569 made in 1969. Slinzer beat John Kleman's 1584 professional score from the previous year but had to bow to Schoch's 1612 pro tally. In Men's Bare Bow, Jim Laird was only seven points below Emil Lehan's '69 tally of 1420. Lehan, himself, was 19 points off his previous pace in third place. Bill Korenda's 1413 tally in Youth "A" Division knocked out Larry Smith's 1381 free style score in the previous year. In like manner, Bob Naulty blasted Arthur Baeckel's 1063 made the year before with a big 1143 in Youth "A" Bare Bow.

Even the ladies were up for this one as Barbara Hoburg wrecked Janet Ashbaugh's free style 1308 of 1969 with a 1465. Both Elizabeth Dimpter and Jennie Aunkst had scores above the previous year's high. In bare bow, June Baeckel's 1112 high of 1969 held against Marky Bellis' 1065 and her own 1970 score of 1033.

So, the challenges are posted for this year. The only thing that seems relatively certain at this point is that 1971 will probably produce a new record in attendance at the 26th Annual Field Championship Target Tournament to be held at Seven Springs. The dates are September 11-12. As usual, the field event follows the Labor Day holiday target shoot at State College.

Dog Training Season Will Open August 1

Sportsmen are reminded that Pennsylvania's dog training season will open on August 1. Dogs may be trained from August 1 to March 31, from sunrise until 9:00 p.m. prevailing time, except that raccoon dogs may be trained until midnight. Carrying a shotgun or rifle while training dogs is prohibited.

To train dogs on Sunday, the consent of the owner of the land where such training is done must first be obtained except in the case of state-owned and national forest lands. The Game Commission urges dog owners to show the same courtesies to land owners that apply during the hunting season.



HELEN LEWIS TAKES CAREFUL AIM at woodchuck with Weaver-scoped 17-cal. Harrington & Richardson M317. Load was 19 grs. 4895 and 25-gr. Hornady HP bullet—deadly to about 250 yards.

Little Poison—the 17 Caliber

By Don Lewis

Photos by Helen Lewis

I WAS ABOUT ready to call it quits for the evening when I saw a chuck come out of the fencerow at the far corner of the field 250 yards away. I kept the binoculars glued on it for 30 seconds before deciding it was not the shot I wanted. It was too far!

Each time the chuck stood up, I was tempted to shoot, but several things had to be considered. First, stiff gusts of wind whipped across the field, and secondly, I was shooting a caliber that was totally unknown to me in the realm of chuck hunting. I was caught between a chuck hunter's desire to make a clean kill and a gun writer's curiosity to find out how the new caliber would react under actual hunting conditions. When the chuck

moved a few yards toward me and stood defiantly for nearly a minute, it was more than I could take. I dropped a round into the action, closed the bolt and eased into the prone position. There was no turning back now; I would soon know if the little 17-caliber was really for varmints or just a flash on the horizon that would soon fizzle out.

I had fired the 17-caliber several hundred rounds on my 100-yard range, but bad weather had kept me from using the 200- and 300-yard ranges, and I had no firsthand knowledge at the longer distances. However, judging from a trajectory chart I had received on this caliber, I felt that my sight in of two inches high at a 100 yards should put me on zero at about

250 yards. I decided to hold dead on and make no allowances for elevation.

The wind problem was something else. All I could hope for was a few seconds of calm that would allow me to get the shot off. The wind problem was further aggravated by the chuck's insistence on staying down and continually moving. During the next 10 minutes, I made a dozen attempts to no avail. Then something spooked the chuck and it raised to a half standing position, offering a broadside shot. Knowing this could be my last chance, I aimed for the chuck's shoulder and fired. The chuck dropped to the ground and was motionless. I studied it for quite sometime through the 12X scope, not certain what had happened. As I reached for another cartridge, the chuck rolled over. In more than 35 years of chuck shooting, I couldn't recall of seeing anything such as this.*

Victim of Wind

It took 238 steps to reach the chuck. It was a clean kill but I was disappointed to find that my shot had struck the back of the chuck's head three inches from where I was aiming. I have the feeling that the little 25-grain hollow point bullet was a victim of the wind, since I found the rifle to be still firing two inches high above dead center when I checked it out later that night.

I have no positive explanation of what happened to that chuck unless the explosive impact of the 25-grain bullet was so great that it literally froze the chuck's reactions for a short period of time. This is purely speculation on my part, but the results of a great deal of impact energy were visible. This little bullet hits very hard.

Most shooters want to know immediately what purpose the tiny 17-caliber bullet can serve. There seems to be an idea that because it is so small it has little if anything to offer. I had heard about this caliber for several years, and I was also aware that many shooters considered the 17 more of a plaything or a novelty than

a real genuine varmint caliber. I've always tried to be objective in my thinking, and I simply couldn't buy the idea that major gun companies would be foolish enough to invest hard-to-get cash, technical knowledge and their reputations on a caliber that could put them to shame and maybe lose thousands of dollars in the process. To me, there had to be more behind the 17 than the desire to come up with something new that could end up the laughingstock of the gun industry. I became so intrigued that I decided to test it in the three models now available—the Harrington & Richardson Model 317 Ultra Wildcat 17/223, Remington's 17-caliber in their Model 700 BDL, and the Thompson/Center Contender handgun barreled for the H & R 17/223.

The first outfit to arrive was the H&R 17/223 which is truly a wildcat cartridge that must be made and hand-loaded. Dies were not available locally, so I wrote to Fred Huntington at RCBS and he sent me a set within two weeks. By the time the dies arrived, I had picked up several boxes of unprimed 223 Remington cases. The 223 is used by the Armed Forces who call it the 5.56mm.

Making the 17/223 is simple and requires only running a 223 case into the 17/223 sizing die to reduce the neck size. Nothing else is modified. To get the finished product, I used 19 grains of 4895 behind the 25-grain Hornady HP bullet.

The H&R version is built on a Sako action with just a 20-inch barrel that measures one-half inch in diameter at the muzzle. The first thing I noticed about this rifle was its shortness. The overall length is just 38½ inches com-





BOTH LEWISES LIKE THE 17s. While Helen uses the H&R, Don waits to try his M700 Remington 17-caliber based on the 223 case with shoulder moved back. Scope is a Redfield 4-12x.

pared to 43 to 47 inches for most rifles. Weight is a surprising 5½ pounds. The stock is hand finished American walnut, which makes a very nice looking outfit. I'm certain the ladies will like this model.

For my tests, I installed the Weaver 4-12X variable power scope with Weaver rings and bases designed to slip over the integral dovetails of the Sako action. The Model 317 comes without open sights, and adding the scope gave the rifle a new dimension. If it shot as well as it looked, I would be more than happy.

I went through the usual process of shooting the first box of ammo just to get the feel of the rifle and learn the trigger pull. I noticed that the shots were staying relatively close even though I wasn't making a real attempt to shoot a group.

My first serious group was not a staggering success, but staying under 1½ inches at 100 yards wasn't too disappointing, since I had no real idea what to expect from the little speedster. I ran off the rest of the box and

got one group down to a fraction over an inch. I switched to 17 grains of 4198 using the same 25-grain Hornady bullet, but couldn't see any real difference. Several times during the course of this testing, I was under one inch, but with the outfit I was using, I would have to say that my average was in the inch-plus category. With a rifle designed strictly for field use, inch groups are not to be scoffed at, especially when a very small bullet leaves the muzzle at 4000 fps. Later, just before writing this column, I fired a ¾-inch group with this H&R, which is fine results.

There is one important point I want to bring out about handloading the 17s. It's very important that the Remington 7½ primer be used. This is not a sly way to advocate this particular primer, but through comprehensive testing by the factory, it was learned the best results were obtained with the Remington 7½.

Remington brought out its own 17-caliber in the Model 700 BDL, and factory ammunition is available. It's

Letters . . .

Shooters for some reason—perhaps because they're involved in an interesting subject—tend to be letter writers. Many of them write to gun columnists, either requesting information, giving it, or just because they want to talk about their pet guns. I enjoy such correspondence and answer as much of it as possible. But sometimes there just isn't enough time to reply to all mail. If you didn't get an answer to a letter, this is the reason.—D.L.

still based on the Remington 223 case except that Remington shoved the shoulder back .087 of an inch. As far as I could determine, case length, diameter, and shoulder angle match those of the 223. The Remington version is a little easier to handload since it has a longer neck. I would consider it dangerous to fire the Remington 17 cartridge in the H&R 17/223 chamber due to the excessive headspace. These little cartridges are mighty potent. Don't take any chances trying to prove that I'm wrong.

For my first tests from the benchrest with the Remington 700 BDL, I used factory ammo. Remington is very proud of its Power-Lokt 25-grain bullet, and I can't find a reason why they shouldn't be. I feel the handloader will have a hard time trying to improve on the 17-caliber factory shell.

Remington's Model 700 BDL comes with a 24-inch barrel that is roughly $\frac{5}{8}$ inch thick at the muzzle. With the tiny hole of the 17, the barrel nearly falls into the target class. Like all Model 700s, the trigger is adjustable for creep, weight of pull, and override. I cleaned the new rifle and adjusted the trigger to a crisp 2½ pounds. Since I wanted to get a fair comparison with the H&R, I installed a Redfield 4-12X scope with the 4-Plex reticle and the Redfield Jr. mount.

Just as I had done with the H&R, I tinkered around shooting the first box, getting on to the rifle and trig-

ger. My first group was the best of the lot on the first test. It measured $\frac{5}{8}$ inch, duplicating my best from the H&R. This I considered excellent with any factory produced hunting rifle. I know that half-inch groups are supposed to be common with most fellows when they're testing rifles, but I can't claim those size groups with regular rifles. Sometimes I get weary of all the talk about these half minute of angle groups or consistent one-holers. I think it gives the readers the feeling that the particular shooter is a terrific shot or that he got a better rifle than can be purchased over the counter. Occasionally, I fire a very tight group with any caliber, but one group does not indicate the true potential of a rifle, I assume I have a reasonable idea of this only after I have fired 25 groups or so. By that time, a true picture of what that rifle and load will do is as plain as the nose on your face. With so many loading possibilities, to take one group—small or large—as the final proof of what a rifle is capable of, is unfair.

Under an Inch

By the time I had fired the tenth group, it was obvious that the Remington 25-grain Power-Lokt factory shell was capable of staying in less than an inch, even though some of my later groups jumped to 1½ inches. In all fairness, I was probably to blame. It's hard to hold with the same degree of precision for a very large number of shots.

With some 200 rounds from each rifle under my belt, I was sure that gossip I'd heard claiming that the 17-calibers were erratic was as false as a seven-dollar bill. Even if the shooting I had done was not what might be called extensive, it was enough to indicate that the little 17s could be depended upon from an accuracy standpoint.

I believe the 17-caliber should be a welcome addition even though it does have some inherent drawbacks. I know that chuck hunters will be skept-

tical due to the lightness of the bullet. I had the same skepticism. On a windy afternoon, I moved out to the 200-yard range just to see what effect a strong cross wind would have on the tiny bullet. Before leaving, I checked the Remington 700 out on my 100-yard range, which is well protected from the wind by pine trees. The rifle was two inches high above dead center. I have no idea just how strong the wind was, but it certainly could be felt, and I'm sure any chuck hunter would have called it a stiff wind.

A shooting buddy, Joe Skursky, was helping me, and he kept me informed when the wind was blowing. The first two groups were fired when the wind felt the strongest, and at 200 yards the little bullet was pushed nearly four inches by the wind. When other groups were fired when the wind was

HERE ARE THE Remington, H&R and Thompson/Center Contender handgun which also is chambered for the 17/223. Rifles for this small caliber can be made up into a light outfit for easy carrying and still have the punch for most varmint shooting. Handgunning makes a more difficult—and challenging—sport.



not a factor, the lateral drift was cut considerably. I did learn that the sight in of two inches high at 100 put the bullet right on center at 200 yards, which proved that the 17s trajectory arc is very flat.

Due to inclement weather, it was next to impossible to do much serious shooting, so I will have to report on the 17s again at a later date. From the results I got under adverse conditions, I think the 17 will speak well for itself.

Unfortunately, I didn't receive the 17/223 barrel for my Thompson/Center Contender in time to do any real testing. Perhaps I'm going out on the limb, but I really don't expect too much from the Contender's short barrel with the little high speed bullet.

I installed the Thompson/Center 1½X Puma scope, which is designed primarily to withstand the recoil of the larger calibers the Contender will handle. With this low-power scope, I did my shooting at 50 yards. Using 19 grains of 4895 with Remington 25-grain Power-Lokt bullets, the groups weren't anything to get worked up over. I did fire two of less than 1¼ inches, but the average was a bit over two inches. With this caliber in a short barrel, this struck me as being reasonable.

Potent Handgun

The groups with the Contender were fired without much preparation, so I don't want them taken as final. More testing of other loads and some practice with the low-powered scope may reduce the groups considerably. I will say that the 17-caliber barrel on the Contender frame would make it a very potent handgun for close range varmint work.

Well, it will take some time before the 17-caliber is accepted or rejected. The shooting I've done so far with the three guns used changed my mind considerably about the little 17. I'm not saying it's the greatest or even that it's brand new. The 17-caliber was experimented with decades ago by some

of our finest gunsmiths and riflemen. Barrel making then did not enjoy the precision it does today, and the 17 never went much beyond the experimental stage.

I had a few doubts of my own when I began the tests, but the more I shot it, the more impressed I became. Not that it has any great benefits over the 222 or the 22-250, for it doesn't, and from what I learned I'll have to classify the 17 as a 250-yard rifle as far as a real chuck outfit goes. In that category, it has plenty to offer. The report is much like a whip but not high in noise level. The high speed of the little bullet allows the shooter to make very precise shots up to 250 yards. The 25-grain bullet breaks easily and

shouldn't ricochet, but I had one that sailed off through the blue yonder. Still, it's the type of bullet that can be fired without too much fear of sailing all over the place after it strikes the ground.

There will always be those who won't accept the 17, but I think it has a place in a chuck hunter's gun cabinet. I can think of no better outfit on a still evening than this caliber. Small but very explosive, it's a perfect outfit for crows, chucks, and foxes. It will never match the larger calibers at long range, but in its class, the mighty midget needs no apologies. In fact, it could be the sleeping giant of future medium range varmint rifles that hunters will adopt.

Junior Hunters Took 11,773 Deer

Hunters 16 years of age and younger took 11,773 deer during Pennsylvania's 1970-71 seasons, a Game Commission study shows. The young sportsmen bagged 5044 bucks and 6476 antlerless deer during the gunning seasons. In addition, youthful bowbenders accounted for 90 bucks and 253 antlerless whitetails during the archery deer seasons.

Percentagewise, youngsters are about as successful at harvesting whitetails as their elders. Around 10 percent of Pennsylvania's resident hunting licenses are sold to youths 16 or younger, and the young hunters account for about 10 percent of the deer taken in the Commonwealth.

Looking Backward . . .

"The inhabitants of this Province and territories thereof may be accommodated with such food and sustenance as God in his providence hath freelee afforded. I do also further Grant to the inhabitants of this Province and territories thereof, libertie to Fowle and Hunt upon the lands they hold and all other lands therein, not enclosed; and to fish in all waters in the said lands, and in all Rivers and Rivulets, in and belonging to this Province and territories thereof, with Libertie to draw his or their fish to shoare on any man's Lands, So as it be not to the Detriment or annoyance of the owner thereof, Except such lands as doe lye upon inland Rivilets, that are not Boatable, and which are or may be hereafter erected into mannors."

"Charter to Wm. Penn" [1863], ed. by Staughton and others, Harrisburg, 1879, p. 160. [From "The Frame of the Government."]

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS	<i>Executive Director</i>
ROBERT S. LICHTENBERGER	<i>Deputy Executive Director</i>
EDWARD T. DURKIN	<i>Comptroller</i>
Division of Administration	
DANIEL H. FACKLER	<i>Chief</i>
Division of Research	
DALE E. SHEFFER	<i>Chief</i>
Division of Land Management	
HARVEY A. ROBERTS	<i>Chief</i>
Division of Law Enforcement	
JAMES A. BROWN	<i>Chief</i>
Division of Minerals	
JOHN B. SEDAM	<i>Chief</i>
Division of Propagation	
RALPH E. BRITT	<i>Chief</i>
Division of Information and Education	
ROY W. TREXLER	<i>Chief</i>

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188
Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.
SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.
Phone: A.C. 412 238-9523 or 238-9524
Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.
NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641
Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.
SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.
Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.
NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.
Phone: A.C. 717 675-1143 or 675-1144
Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.
SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.
Phone: A.C. 215 926-6071
Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473.
Phone: A.C. 215 287-8151
WESTERN GAME FARM—G. Russell Enlow, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212
LOYALSOCK GAME FARM—Jack N. Anderson, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500
STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252
SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223.
Phone: A.C. 814 275-2515
STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

HOWARD NURSERY

SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brockway 15824. Phone: A.C. 814 265-0456

☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆ ☆

☆

☆

☆

Gun Owner's Creed

☆

☆

I accept the responsibilities that go with owning a gun and pledge myself to know and obey the laws governing the ownership and use of firearms;

☆

☆

☆

☆

I recognize that my gun manners reflect on all gun owners and I pledge to handle my firearms safely and courteously;

☆

☆

☆

☆

I respect the rights of others to enjoy the outdoors in their own way and I will be considerate of private and public property;

☆

☆

☆

☆

I will work to preserve from waste the wildlife and other natural resources of our country and for their wise use and enjoyment by all Americans;

☆

☆

I will walk with pride in the path of those before me who have helped to create and preserve our great national heritage, and will help to teach others an appreciation of nature and an enjoyment of the out-of-doors.

☆

☆

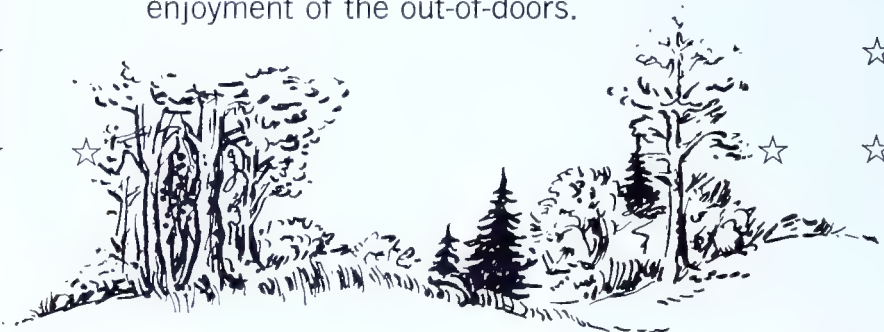
☆

☆

☆

☆

☆



50157
1.6
1971

PENNSYLVANIA GAME NEWS

SEPTEMBER, 1971

25 CENTS



Published Monthly by the
PENNSYLVANIA GAME
COMMISSION
COMMONWEALTH OF
PENNSYLVANIA

Milton J. Shapp
Governor



COMMISSION MEMBERS

Edwin J. Brooks, President
Lansdale
Andrew C. Long, Vice-President
Shamokin
H. L. Buchanan, Secretary
Franklin
James A. Thompson
Pittsburgh
Loring H. Cramer
East Stroudsburg
Frederick M. Simpson
Huntingdon
Robert E. Fasnacht
Ephrata
Marshall E. Jetty
Brockway



Glenn L. Bowers
Executive Director

PENNSYLVANIA
GAME NEWS

Robert S. Bell
Editor
R. Theodore Godshall
Associate Editor
John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
Stupid, They're Not!	2
By Albert Shimmel	
The Bird That Advertises for Hunters	7
By Byron W. Dalrymple	
The Gobbler of Dead Woman Hollow	14
By Ed Shenk	
How Good Is Your Coon Hound?	19
By Nick Sisley	
Ringnecks Should Be Abolished!	23
By L. James Bashline	
Elasticity Makes for Longevity	27
By Carsten Ahrens	
Save the Wetlands	28
By J. Almus Russell	
Venison Jerky	45
By George E. Dolnack, Jr.	

NEWS

Field Notes	35
Conservation News	39
By Ted Godshall	
Hunter Safety Education	47
By Wes Bower	

COLUMNS

Woodcock in Wine (Camping)	49
By Les Rountree	
Skill to Score (Archery)	54
By Keith C. Schuyler	
Rebirth of a Wildcat—The 22-250 (Guns) ..	59
By Don Lewis	

COVER PAINTING BY J. M. ROEVER

The bobwhite quail isn't found in all sections of Pennsylvania, but in those areas where there are good populations—particularly the southeast—he has quite a following among hunters. His favorite habitat is old weed fields and the brushy edges of woodlands, and nesting is done in high grass. Ten to 15 eggs are normal—they're pure white—and the young leave the nest at hatching. Quail feed mostly on insects and weed seeds and they're famous for their whistled "bobwhite" call. Hunters usually encounter coveys of them, and their blastoff can be as disconcerting as that of a grouse.

Published MONTHLY by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$2.00 per year; \$5 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved.
NOTICE: Subscriptions received and processed by the last day of each month will begin with the second month following.

Printed by Times and News Publishing Co., Gettysburg, Pa.
Second Class Postage Paid at Harrisburg, Pa. 17120, with additional entry at Gettysburg, Pa.

PA STATE LIBRARY
AUG 25 1971

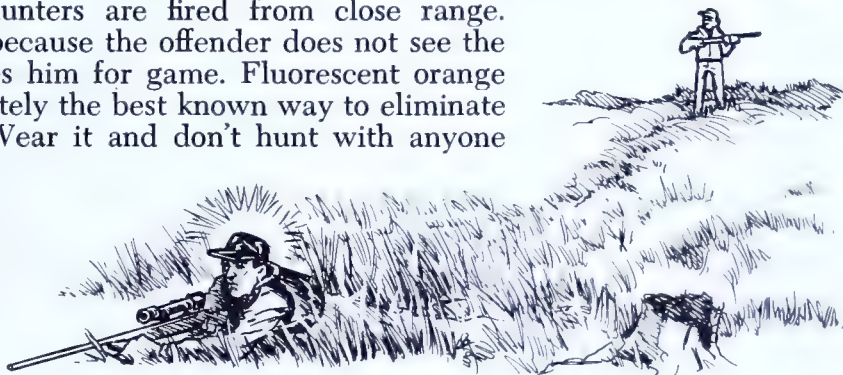
Fluorescent Orange Makes the Difference

A FEW MINUTES AGO, as this is written, we received notification that a 17-year-old boy was fatally wounded by a 16-year-old companion while hunting woodchucks. Though complete details are still unavailable, indications are that the youths, who were neighboring farm boys, had separated and the older one lay down to watch for chucks. From a certain angle, only his bare head was visible above the grass, the other mistook it for a woodchuck and fired his 22-caliber rifle, inflicting the fatal wound.

This boy didn't have to die. Had he been wearing a fluorescent cap, as urged by the Game Commission for years, he would not be dead, his family would not have to endure this tragedy, the other youth would not have to spend the rest of his life with the knowledge that he killed his friend. All of this could have been averted if this victim had simply been wearing an orange hat which costs perhaps a dollar. Does it make sense?

Fluorescent orange makes the difference. Statistics prove it. Check John Behel's report (p. 47, June GAME NEWS) for a complete rundown on last year's hunting accidents in Pennsylvania. During 1970, 23 fatal and 432 non-fatal accidents were reported here. *In not one accident where color was a factor was the victim wearing fluorescent orange.* To repeat, no one wearing fluorescent orange was shot in mistake for game or because he was not seen by the offender. By comparison, 79 persons wearing no conspicuous color, 70 persons wearing red, and five persons wearing yellow were shot for these reasons. Again I ask, does it make sense not to wear fluorescent orange? Isn't your life worth the price of a hat?

An orange hat or vest won't eliminate all accidents, of course. A bullet floating in over a hill from a mile or more away can kill you in the same manner that an out-of-control truck can if it smashes into your living room. Or if you carelessly shoot yourself it won't matter in the slightest what color clothing you're wearing. There's simply no defense against a random bullet or truck, and it takes training and constant vigilance to handle loaded guns safely. We accept the minute chance of being hit by a stray bullet and most of us do handle our firearms in a safe manner. However, not enough of us wear fluorescent orange hats and vests every time we go hunting, and this is the biggest mistake we can make. The overwhelming majority of shots which wound or kill hunters are fired from close range. Accidents occur because the offender does not see the victim or mistakes him for game. Fluorescent orange clothing is absolutely the best known way to eliminate such accidents. Wear it and don't hunt with anyone who isn't wearing it. That'll improve all our chances — yours and mine — for many years to come.—*Bob Bell.*





Stupid, They're Not!

By Al Shimmel

THE LAST STEEP slope of the hill before you reach the crown rises from the bench at such an acute angle as to make climbing difficult. Some 30 yards up the slope a pair of twin oaks, partly uprooted by a winter storm, extend toward the almost level bench. They are so nearly horizontal that it is easy to walk out the bridge of trunks to the perch among the tangled brown branches. Here a hunter can sit in comfort and watch the deer run that hugs the inner edge of the slope below. . . .

Even before the drive began I could see the shadowy forms moving among the young pines and laurel clumps that formed an understory to the hardwoods of the slope. They were restless images, so far away they were indistinguishable. Once my pulse leaped as I caught a brief glimpse of bright tines among the dark greenery.

From far out on the point came a faint whistle. The drive had begun. Deer were moving reluctantly in my direction. I eased my rifle into position. The deer trail came down a narrow alley between two heavy clumps of laurel. I saw them coming in single file. Suddenly the leader, an old doe, stopped, looked up at my stand and then bolted, followed by the others. A flash and they were lost in the thickets. I glimpsed the buck as he dashed up the hill but had no opportunity to shoot.

According to the experts, deer observe very little that is above their eye level. They are not supposed to look up. I am sure these deer did not hear or wind me. This stand had not been used since the previous season when two bucks had been taken here. Did the doe learn from the previous experience and remember? I can only speculate. During the week that fol-

lowed, tracks indicated that deer often passed under the stand when it was unoccupied. Don't ask me if they realized this. I do not have answers.

Matching wits with the animal makes deer hunting the fascinating sport that it is. No matter how familiar we are with our hunting territory, we are at a disadvantage. The deer lives here. He knows every nook and cranny through the seasonal changes. We are the intruders. We do not fit into the picture. The deer's eye is as keen as ours and is far superior when an object is in motion. It has a superior sense of hearing and a nose that is incomparable. It is by nature a skulker and will hide or slip away as its instincts dictate. It can and does live in close proximity to man, surviving in suburban areas where it visits gardens and orchards. Often it lies up by day in cover that seems barely large enough to hide a cottontail. . . .

The stream rises from a gentle slope that was once part of a now abandoned farm. The fields are gradually reverting to the wild. Here and there ancient apple trees compete with forest seedlings parented by woodlot trees from the hill above. Below the farm the stream forms a boundary between a cutting, now grown to such thick brush as to be almost impenetrable, and a stand of mature hardwoods that generally produce a heavy crop of mast. In short this is an ideal habitat not only for deer but also for grouse and squirrel.

Natural Blind

I found a natural blind between the huge forks of a fallen tree. A deer trail crossed the brook and passed within easy bow range. I came in at dawn and settled myself to wait.

A grouse walked down to a tiny

gravel bar and picked up grit before disappearing. Three gray squirrels foraged for fallen acorns while overhead the agitation of branches and the dribble of hulls told of others working unseen among the colored leaf crowns. Several chickadees searched the rough bark of my blind so close I could have touched them. Not far away a pileated woodpecker hammered and tore out chips from a solitary pine.

Suddenly a squirrel sat up and looked toward the brush. Deer were moving in my direction. Slowly I reached for the bow and nocked an arrow. A mature doe followed by her twins of the year came down the trail. I noted they wore their dark winter coats. Lagging some 30 yards to the rear came a buck, his 8-point tines still dark from the brush stainings. They loitered after the manner of feeding deer but worked ever closer. The doe and her young crossed the brook and nosed among the leaves for acorns. They were within easy range. The buck paused at the edge of the brook, turning his head from side to side as he watched the squirrels that had resumed feeding. With a graceful bound he cleared the brook. Five yards more and then—

I was unaware of the jay until he alighted on a branch close to my ear,

screamed twice and fled. As if by magic the deer were gone and with them my chance for a shot. Could I have gotten my hands on that feathered busybody, I would have joyfully wrung his neck. The speed with which the deer responded to the jay's alarm, speaks for itself. . . .

One of the benefits of living near deer country and hunting over the same territory year after year is an intimate knowledge of the land, the location of the deer runs and even the animals themselves. If a group of hunters have cooperated over a period of years they forecast with a high degree of accuracy their sport for the season. Even the behavior patterns of individual animals can be predicted.

During the past season we hunted an area where a good buck had often been observed. The ridge consisted of small areas of second growth saplings interspersed with old fields and brush cuttings. For three days the area was hunted without sighting this buck. One day one of the drivers fell behind the drive. He had just passed a dense thicket when he turned back to investigate. He found considerable fresh sign but no deer. There was evidence that the buck had been moving around the edge of the drive, then returning to his resting place in the thicket.

Trail to Thicket

The next morning a man was dropped from the drive at a spot where he could command any deer trail leading to the thicket. The drive had passed but a short distance when the buck came sneaking along on his way to his accustomed place. He had a magnificent 9-point rack. We were almost sorry to have bagged him.

The last day of season we spent a fruitless afternoon in pursuit of a fine buck on the same ridge. Even when we were sure we had every avenue of escape blocked, he eluded us. My neighbor has a number of apple trees surrounding his home. A band of re-



forested pines about 50 yards in width separates this orchard from the ridge on which we were hunting. After supper that evening I walked across the garden and turned my spotlight on the orchard. The buck and four does were calmly eating windfall apples within a few yards of the house. They did not seem particularly afraid. It seemed they knew this had been the last day of open season.

Corn Handout

A friend who lives somewhat off the beaten track has a home surrounded by a Christmas tree plantation. Because of his interest in photography and wildlife, he has taken pains to gain the confidence of several deer. They respond to his call and each morning accept a handout of corn. When strangers are present they are shy, but with their host they show little of the timidity that characterizes the whitetail.

Still-hunting deer requires a special temperament, high skill, and a thorough knowledge of woodcraft. Opportunities to practice this sport are rare in Pennsylvania. Hunting pressure is too great. But to find a buck and bring him to bag is the highest form of sport.

Some years ago my friend and I had two days under ideal conditions to try our skill. A light snow covered the hills above the river. An abandoned farm two miles from the nearest hard road was our base of operations. For a day or two at the beginning of season this area is driven by hunters from a camp on the highland. In late season it is undisturbed.

During the first morning we agreed to hunt alone, each covering a specific territory. We were to meet at noon and plan accordingly.

A woodlot separates the house that overlooks the river from a hill orchard that occupies the south slope. To the right of the house a shallow ravine carries the overflow from a spring to the river. There was a lot of deer sign among the hardwoods and in the or-



chard the ground was cut to bits. To pick up an individual trail was impossible. I moved toward the cove above the spring. Here the tracks thinned. Almost at once I found a big track that indicated a buck.

Most bucks, particularly old ones, are sloppy walkers. In the snow the drags between tracks are almost continuous. Does walk daintily, lifting their feet. Their tracks are clean cut or show only a slight drag. The difference is obvious.

This deer apparently had finished feeding and was on his way to the bedding grounds, somewhere on the ridge above. Old, experienced bucks have a tendency to bed down some distance from others of their kind. I moved slowly, cutting the track only occasionally in order to get an idea of its general direction. I spent much time inspecting each bit of cover in hope of catching a glimpse of my quarry.

The trail angled up the hill. I paused at the edge of a small flat and searched the slope ahead. Near a fallen tree to which the leaves still clung, my eye registered a flicker of movement. But I could not be sure. For at least a quarter hour I studied the surroundings. I could see no sign except the tracks leading directly to the tree.

Investigating, I found an empty bed and fresh tracks where the buck had slipped away unseen. Stooping low at the bed and looking downhill, I was amazed to find the entire slope below was in plain view. There was evidence that this spot had been used constantly by the buck. I followed his tracks, bent on learning as much as I could about him. He circled into the wind and then cut down wind from his trail. He selected a thicket and stood hidden until he was sure he was being followed, then moved away to repeat the performance.

Command Escape Path

The next day we hunted this buck again. My partner by taking a circuitous route found a stand where he could command the buck's path of escape. Again I followed the tracks that led to the windfall. Before I reached it I heard the report of a rifle. Habit had been the buck's undoing. He had been so busy watching his back trail that he presented the hidden hunter with an easy chance. The buck was old and gray of muzzle. His antlers were on the smallish side but he was sleek and fat. We were almost sorry to have ended his career. . . .

One of the favorite hiding places of deer during the height of the hunting pressure is a reforested pine plantation. Here trees are purposely planted close together in order that they grow straight trunks. When trees reach a height of six to 15 feet they form excellent cover as well as protection from the elements. It is impossible for a man to move silently through this cover. Deer are quick to sense their advantage. Even when drivers are but a few yards apart, deer will stand still until they pass or slip silently between them. It is next to impossible to shoot in such cover and in most cases deer refuse to be driven out.

Members of our party driving deer in the pine plantings have narrowly escaped being run down when the

animal, bolting from one hunter, failed to see the next in line. One hunter claims that he accidentally struck a deer across the rump with his rifle as he threw himself out of its way.

An old farm occupies the shoulder of the hill that overlooks the village. For the past three seasons a buck has frequented the orchard and old fields behind the barn. He is an easily identified deer. His right antler droops at a much lower angle than its mate, giving him a somewhat rakish appearance.

During the open seasons this buck seemed to vanish from his accustomed haunts, only to reappear when the guns were silenced. Where he spent the intervening time mystified local hunters.

Two spring brooks join within the village. Their banks are bordered by a swampy triangle about 250 yards on a side. This area is bounded by paved roads lined with dwellings. It is forested with evergreens that shelter an understory of rhododendron and alders that form a forbidding tangle.

The day after last season closed I entered this strip of woods in search of the cocoons of the *Cecropia* moth. The mystery of the disappearing buck was solved. He had been living in seclusion in the heart of town. Three lady friends kept him company.

Dumb Animal?

Most deer live out their life span within an area of one square mile. They have sharpened their senses in order to survive. How well they have succeeded is proven by the sighting of their kind at the very edge of metropolitan areas. They often cross the clipped lawns and feed in the small gardens of new housing developments.

The expression "dumb animal," I am certain, was not coined by a deer hunter, especially one who has followed the sport for half a century. Most experienced deer hunters will affirm the opinion — "stupid they're not."

The Bird That Advertises for Hunters

By Byron W. Dalrymple

IF OUR arrangements had been even an iota more delightful I would have felt obligated to forego them because of downright sinfulness. Picture a fine, spreading shade tree at the edge of a farm field where a grain crop has recently been harvested. It is the first day of September. The weather is hot, but the deep shade beneath the tree, swept by a gentle breeze, is a pastoral haven of complete contentment.

We have driven down a lane and parked the station wagon so its tailgate thrusts into the deep coolness. On the tailgate the ice chest has been placed. Its contents — cheese, lunch meat, crackers, tomatoes, pickles and the several sundries that make up what is known universally as a sportsman's lunch — have been copiously spread. There are icy drinks. Several camp chairs and stools, the latter in camouflage, have been taken from the roof luggage rack and set out.

Inner Man First

Cased guns and boxes of shells lie in the vehicle. But no one makes a move toward them yet, even though the time is going on toward 2 p.m. The ritual of the inner man comes first, and there is no hurry. We are on a foray that in all of U. S. gunning is the most relaxed, sedentary and, I often suspect, thoroughly enjoyable of them all.

We build enormous conglomerate sandwiches and munch them contentedly. We laze back, visiting casually. A brace of doves, their scimitar wings slicing the sky with a deftness almost unbelievable, their spear-pointed tails a vision of streamlining unknown elsewhere among game birds, hurtles past,



VAL KOVACH EXAMINES his first dove of the 1970 season. Early opening season and generous bag limit make doves a favorite target of many.

turning, twisting, rolling with such effortless grace and ease that their high speed barely registers.

"Here they come—there they go," someone remarks.

"Advertising for hunters," another chortles.

Doves are why we are here. This is opening day of dove season. The word has got around that a goodly number of these birds has been feeding daily in this field, and we've received permission from the owner to shoot it.

The feeding flight of the afternoon won't really get underway in earnest for another hour. By then we will have finished our lunch and our lies of great hunting prowess and marksmanship. Someone will drive the vehicle away out of sight. In drab clothing, so not to call attention to our presence, we will scatter out into shady stands around the field.

Singles—Twos—Trios

Presently the birds will begin to arrive—singles, twos, trios, a small wad here, a loose group of six or eight there. We all know without saying it that it's the proper time at lunch to brag about shooting ability. The birds will check us out soon enough, and it is a fact that no other game bird on the list can do that so thoroughly. Humility, it might be said, is a dove hunter at the end of opening day. No other bird presents so many varied and difficult shots.

"The thing I like most about dove hunting," I remark, "is that you don't have to get up before daylight. It is a civilized, gentlemanly sport. It is especially good for lazy people." (Regulations prohibit shooting before noon.)

I am thinking about what the other crony said—about doves advertising for hunters. They get only a modest amount of attention. Many hunters who have never given the dove a thought have no idea what they are passing up. I feel a moment of pity. This is the most crystal-pure, classical wingshooting endeavor on the continent. Luck does nothing here.

"Shoot *them* little things?" a heathen gunner once said to me when I suggested it. Two hours later, after I had set him up for initiation, he was not only a convert, but a totally frustrated one. "Them little things" had made an utter fool out of him. Thirty-six hulls lay scattered around his stand, and two birds were in his poke!

It is true that Pennsylvania has only limited opportunities for dove shooting. Because doves are migratory, nesting in every state of the Lower 48

but for the most part wintering across the South, Pennsylvania is only one state among several that is primarily a nesting ground only. Thus the number of its doves is limited, and the time they stay in fall is also sometimes exceedingly so. Nonetheless, the dove could stand a lot more hunting in Pennsylvania, could give enormous returns in heady sport to many more of the state's gunners than now utilize it.

Silly as it sounds, many more woodchucks than doves are shot in the state each season. An average dove harvest runs somewhat over 200,000. By standards farther south, where some states bag over three million doves, that's not much. But I believe that with attention, and a realization of what grand sport dove hunting is, the annual harvest in good years could easily be doubled. It certainly won't harm the dove population—they have been holding up well for years now—and it could give hundreds of added days of very different and dramatic sport to Keystone hunters—along with just that much more utterly superb eating.

As a rule the Pennsylvania dove season opens the first day of September. The only other seasons to open then are for rails and gallinules, for which there is virtually no hunting anyway. Thus, doves are first on the list in fall, and they present a grand opportunity for a head start—and a warm-up that is likely to be a "hot-up" by the time you count the misses!

Because the dove is a warm-weather bird that will almost certainly drift on south at the first cold snap, the early part of the season is usually the best. For practical purposes one should plan on this as a September sport. With a limit of 12 (as this is written) and possession limit of 24, it's easy to see that a substantial amount of shooting can be involved within legal brackets, and at least two excellent meals for a family of three or four possible within possession or else a single all-out gourmet session.

I was initiated into dove shooting a good many years ago. It has pleased

me immensely that I have had the good fortune to shoot (at) them in, to date, at least a dozen states. I have always been enthused about the fantastically involved and challenging shooting presented by the swift-winged, illimitably mobile doves and pigeons. I've hunted white-winged doves in Mexico, Texas and Arizona, band-tailed pigeons on the west coast and in Arizona.

I find this group of birds the ultimate in many ways, the sport stripped of everything other shooting sports require—little or no walking, no ruses, few special techniques. You just sit on a stool, or stand fairly well camouflaged, and let them come to you. There is yourself, the gun, ample ammo, and the birds. It compares to athletic sports about like boxing or wrestling compares to football. Just you and the birds are involved, and the birds have the odds. Some years ago, it amuses me to recall—even though it wasn't funny—I wrote a whole book about doves and dove shooting. It didn't sell worth a hoot.

The dove shooters already were dedicated, and others didn't care.

Nonetheless, there is a lot to be learned about dove hunting that will up one's chances of success. Camouflage clothing, or at least drab clothing that matches the surroundings, is mandatory. Young doves may fly innocently near a shooter in a white shirt, but even the young won't continue after a few rounds have been poured at them. The dove is so extremely mobile that it does not need to flare wildly as it approaches and spots a hunter. They have the exasperating habit of altering course just barely enough to take them well outside shotgun range. Thus the successful shooter is the one who stays well concealed.

Where one selects a stand is of utmost importance, and not always easy to decide. Doves are not colonial, or flocking, birds. But they are modestly gregarious. They fly in small, loose groups. A location where they have discovered good feeding will draw most of the birds in that area. But the experienced hunter knows

DOWNED DOVES ARE OFTEN HARD to find in weeds. A retrieving dog is a big help—as is a sharp-eyed hunting buddy!

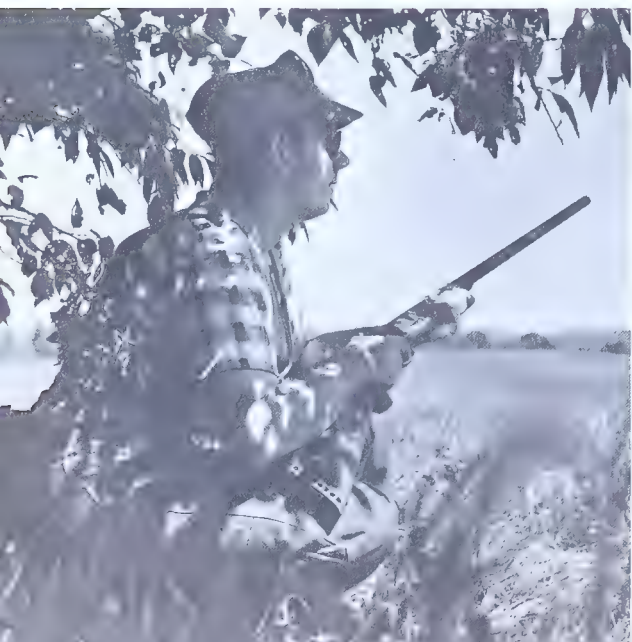


that on any given day the majority of the birds will fly in a certain pattern. They will come mostly from the same direction. They will cross into the feeding area mostly over a specific flyway perhaps 50 to 100 yards wide. They will leave the field on another fairly general tack. By watching the pattern as a shoot begins, several hunters can jockey their positions to get under it.

One of the reasons dove shooting has traditionally been a sport for groups of shooters is that doves feeding in a large field have to be kept on the move. It is common for birds to fly in, be shot at, and still alight on down the field. Birds on the ground will serve as live decoys and draw others. But if several hunters surround a feeding field, out of range of each other, of course, they can keep the birds on the move and circling. Many small groups or duos will fly off, but come back in a few minutes.

Selecting a stand should be done with thought to how you will swing your gun. You need to be obscure to the bird's view, but out from under limbs that inhibit sighting of birds or following through with your swing. These little gray bullets really go, and you have to swing fast to catch up

GROVER HERR, of New Cumberland, finds shady spot in fencerow to wait out passing doves. Such a place can be more valuable than shells!



and get out ahead. Another rule is to try to pick a stand where you will have an "open fall." Downed doves are extremely difficult to find when they fall into grass or tall weeds. It is usually possible to pick a spot that is clear in front of you, and this forethought saves much time and many a bird otherwise lost.

Seed Feeders

Mourning doves are grain and seed feeders. However, they do not feed from the stalk. That is, they always pick fallen seed from the ground. This is why a harvested field, where some grain has been wasted, as by corn pickers, always draws birds. Knowing dove foods in your bailiwick is vital. Wild sunflowers, ragweed and croton are prime wild foods. So are foxtail, mullein and sometimes milkweed. All of the domestic grains serve — rye, wheat, barley, soybeans, millet, kafir, corn. Time was when many a farmer "hogged down" a cornfield. This made for excellent shooting, but it's seldom done nowadays.

The best idea is to get out prior to the season—but only a few days prior, for doves are whimsical and can switch locations handily. Watch for concentrations of birds. During the middle of the day gangs of doves perched on wires at roadside tell you there is a reason for so many in that area. From that clue it's not difficult to locate where they are feeding and on what. Sometimes small weed patches happen to furnish ample seeds to draw, say 20 or more birds. They will be there day after day. You can shoot one such spot, move on to the next. A study of food possibilities in any given year in your area will pay off handsomely. Bear in mind that doves do not scratch for food. It must be lying aground where it is easily taken.

There are two other general varieties of dove shooting besides shooting at a feeding location. One is finding a watering spot where many come in. This is fairly easy in an arid state, but

in Pennsylvania there is usually such a broad choice of watering places that it seldom works as well. However, if you locate such a spot, the birds will usually come to it after they have fed full in the morning, and again late in the afternoon well before they go to roost. Water, when birds are using it in swarms, offers a great shoot. The other item that ties doves to a specific location is the roost. I have had some fast shooting by setting up some distance from a known roost and taking birds late in the afternoon as they pass toward it. But there is a hazard. If you shoot a roost hard for several days, you'll probably drive the birds to seek a new one.

Pass Shooting

Occasionally some wonderful shooting can be found of the "pass" variety. Actually it requires, to be at its best, more birds than are commonly present in Pennsylvania. But now and then one will stumble upon a narrow valley or the edge of a woodlot, or a stream bottom that serves as a flyway taking doves to feed, water or roost. They will be traveling at high speed as a rule, and at a good long range overhead. On such occasions the shooter must double his lead, really get way out ahead. Misses are more common than hits, but the satisfaction is pronounced every time you get one into the shot circle.

For such shooting you need a close-choked gun, and I have often employed high-base No. 6 shot. Many do not agree with that, but it works well on the high ones. Otherwise, at ordinary ranges, smaller shot is best. Some years ago when it was easy to acquire No. 9, I used it. Today very few stores stock these. The new so-called "dove loads" serve very adequately for most situations. I like to carry along both light and heavier loads, and employ some means of changing chokes to match any given situation.

For example, I started out on a shoot last season when the day was



DEDICATED DOVE HUNTERS have learned how to be comfortable during periods between shots, as shown by this hunter in northwestern Pennsylvania.

bright and warm. But by shooting time a heavy overcast had moved in, the breeze was cool and was building to a stiff one. Doves are very susceptible to weather changes. The wind was from the north. This meant almost certainly that birds would move with it. They won't stay put when the temperature drops drastically. Instead of birds drifting lazily across a feeding field, we were suddenly faced with high doves flying all-out, riding the wind. The modified choke I would have used for the closer, slower targets was out of the question. I changed to a snug one and to heavier shot, and wound up with a fair score.

Hot, clear, still days offer the best and most predictable opportunities. The routine of the birds then is to fly off the roost at dawn to feed, then to water, and finally into stands of trees to rest during midday. Watch rows of well-leaved trees along a fence line or stream bottom near a good feeding spot. Also, always keep an eye out for dead stubs thrusting high. Doves favor these as perches and two or three in such an old snag may indicate many more nesting in leafy shade nearby. If you will get out and do your scouting in the morning, often you will have a substantial number of birds pegged for p.m. shooting.

If the day is exceedingly hot and still, the birds may stay in cover until late afternoon. If it is just a nice warm September day, they will begin to fly by around 2 p.m. The flight will get heavier as the afternoon advances. Right before quitting time—sunset—is often the period when your barrel will be burning, as birds head from feed to water and roost. For some reason the birds seem time after time to fly *out of* the sun. This means you must face the lowering sun to spot them, then pivot around to take crossing or going-away shots in order to see well enough to get on them.

I've been interested late years in experimenting with both calls and decoys for doves. These add spice to the sport and at times do lend assistance. If you observe doves closely, you'll note that when several fly into a field and alight, others flying into the same field will, if they spot those on the ground, check their flight and drop in nearby. Or, if two or three doves are perched in an old dead tree, time after time others passing or coming to the

HAYES ENGLERT watches proudly as his grandson **Paul Creedon** studies the first dove he ever bagged. It takes good shooting to drop these speedsters.



general location will swerve to alight in the same tree. Careful study will even show you that a particular dead limb, or several of them, invariably appears to have special appeal.

Decoys

After I had observed these dove habits for years, when dove decoys first appeared on the market I decided to try them. I still use them occasionally, both in bare trees and on the ground. I don't claim decoys will pull doves in every time, but they do attract a number of birds and are thus worthwhile. I recall one day when not a dove would alight by my decoys. But almost every one switched course to take a look. Because the decoys were of course placed within shooting range, the effect was the same as if the birds had intended to alight.

Dove calls help, too. A calling dove is always perching. The sound does not, in my opinion, actually influence doves to come to it, as a duck call brings ducks in. But it is a confidence builder. Used with tree-placed decoys, the effect is total—contented, undisturbed birds both in sound and sight. I'm sure it may on occasion add a bird to the game bag.

For those who've not previously hunted doves, a brief bit about how to handle them after the hunt may be helpful. Dove feathers are loosely placed. They pluck easily, and always should be plucked dry. The tradition is for all hands to gather after a shoot in a shady spot, preferably with cold drinks gracing the tailgate again. The kill is then feathered and cleaned. Take along some large paper bags for the feathers, or better still several good-sized cardboard cartons. Pluck the doves into these, so the ground is not littered.

Some hunters simply take out the breasts. This is downright disgraceful. The tiny saddles and legs are wonderful tidbits. After birds are plucked, the crops are easily pulled out. Easiest way to dress the bird now is to cut each up the back, from vent to neck,

lay it open, and pull out entrails and giblets. We always give one of our crowd the single chore of caring for the livers, hearts, and gizzards. These are small, certainly, but added to the gravy they're delectable, as anyone who's tried them knows.

There are obviously many ways to cook the dark-meated doves. Frying, though common, is just a good way to ruin them, in my opinion. Best way to get the full flavor and utilize all meat and juices is to shake the birds in flour, brown them swiftly in a small amount of grease in a deep iron skillet or a dutch oven. Now turn the heat very low, add water, and if you are not averse to use of wine, slosh in either a husky amount of *good* wine, or better still of vermouth. Add pepper, a dash of salt. Cover, and keep the heat so low the liquid only gently bubbles. When all birds are tender—probably an hour—they can be lifted out and served separately with the gravy, thickened, on the side. Or, the birds can be left in while the gravy is thickened. Here indeed is the main course for a game bird meal that leads to outright adoration.

Farmland Birds

Because doves are, in general, farmland birds, obviously much of the prime hunting is on privately owned lands. Numerous landowners, however, are not especially difficult about giving dove hunters permission when asked. The technique of this sport does not require a lot of charging around over crop or other fields, and landowners know pretty well where the shooting is going to be. I would suggest to hunters that they also check carefully the dove shooting possibilities on many of Pennsylvania's State Game Lands. Most hunters using these areas have pheasants, quail or other game in mind, and seldom consider the dove. But a number of qual-



AFTER FINDING A tree which appeals to doves as a stopping place, some hunters use an extension pole to place decoys where they'll be visible to passing birds and help draw them in. Since waits can be long, a comfortable swivel seat which contains shells, cool drinks and sandwiches is useful.

ity spots for both quail and pheasants will appeal to doves. An expanse of some favorite dove food on a tract here and there should tip a scouting hunter off to excellent upcoming shooting.

As I said in the beginning, the dove is really advertising for attention of hunters. Let yourself succumb to the message in its sky-writing ads. Answering the ad will put you just one shoot away (pun intended) from becoming an ad-dict!

The Old Folks

Canada geese sometimes live 20 years or more.

The Gobbler of Dead Woman Hollow

By Ed Shenk



ED SHENK, of Carlisle, and the gobbler he collected in Dead Woman Hollow on the South Mountain. With entrails removed, the big bird weighed 16½ pounds. Shenk first saw him in the spring while fishing. Determined to get this gobbler, Shenk spent much time in scouting, even gave up grouse hunting time to make the trip. Success didn't come easy, but it was worth the effort. Others who want a gobbler could benefit from his technique, by scouting for birds before the season opens.

DAYLIGHT WAS still minutes away when I heard the first turkey leave the roost, beat its wings, and sail almost noiselessly down the wooded ridge toward the valley where I was concealed. Another left the roost, then another. My eyes watered as I strained to penetrate the gloom which surrounded me. The trees finally became distinct and I could recognize my surroundings.

Far up the ridge a great horned owl sounded his eerie *whoo-whoo*. I became more alert when I heard the whispering rush of wings as a lone turkey sailed down from the ridge behind me, gliding with a quiet hiss to the valley where I waited.

Somewhere off to my left the bird landed. There was a momentary silence, then I heard the first cautious steps in the frosty leaves.

I glanced at my watch, hoping it was legal shooting time. I still had 10 minutes to go!

Was this the old gobbler I was after? Would he be close enough when it was legal to shoot? I couldn't be certain whether I shivered from the crisp November air, or from anticipation of a shot at "my gobbler."

My gobbler (as I had come to call him) and I first met early in the spring. I was fishing for native trout in Mountain Creek, a sparkling mountain stream flowing through a heavily wooded valley in the South Mountain area of southcentral Pennsylvania. I was parting the alders to dapple a fly into a tiny pool when a loud *gobble-obble-obble-obble* sounded so close I nearly fell headfirst into the water.

I crawled toward the awesome sound in hopes of catching a glimpse of the noisy creature. As I parted the tiny evergreens I caught sight of one of the most magnificent birds ever put on this great earth. Tail fanned and

wings dragging the ground, the bearded one pranced and performed for five dainty hens. I watched the spectacle for what seemed like an hour before one hen apparently sensed my presence. One moment all six birds were standing motionless; the next moment they were gone. Had I really seen them, or was it my imagination? I stood up and saw the scratchings that the turkeys had made, plus one enormous footprint in a tiny patch of sand.

LeTort Deserted

For the next few weeks I deserted my favorite LeTort with its wary brown trout and concentrated on the brookies of Mountain Creek, especially the section of Dead Woman Hollow where I first saw the big gobbler. Every time that old boy called I got goosebumps all over and promptly forgot the fishing.

Once I watched as he and a smaller gobbler had a go at each other. It wasn't very long before the younger bird, minus a few feathers, streaked off to safer ground with my gobbler in hot pursuit.

During the summer months I occasionally drove through the area, and twice I saw the big bird cross the road ahead of me. At various times different non-hunters told me of sighting a big turkey crossing the highway in the same area. Further questioning determined that most crossings were within the same 200-yard area. Since the road is heavily traveled, especially in the summer, I felt that many hunters would see this magnificent bird along with the flocks of turkeys which inhabit the same hills and valleys. I knew my only chance would be a thorough scouting for this particular gobbler. This would give me some advantage over the casual hunter.

I am not the kind of dyed-in-the-wool turkey hunter who normally gives all his free time to this great bird. I had taken a couple of the big birds over the seasons, one in my college days at Penn State, another on a

grouse hunt in these same South Mountains. Truthfully, I would rather tramp the ridges and hollows for Old Ruff than for any other bird. This gobbler, though, was a challenge, and I like the challenge of outwitting a particular species, whether it be a nice buck, a particular trout, or in this case "my gobbler."

I once pursued a massive LeTort brown trout over the course of three seasons before I was fortunate enough to land her. So, here again was a challenge, one I couldn't ignore. Even if I did give up a couple weeks of grouse season, I would still get a lot of hunting after the turkey season ended.

South Mountain, made up of many ridges, knobs and valleys, extends for about 42 miles in a long oval, from the Mason-Dixon Line to within 10 miles of Harrisburg. At the widest point it is about 13 miles across as the crow flies, much farther by car. It is laced by roads ranging from the two-lane paved highways to indistinct ruts barely passable by Jeep. It touches three southern Pennsylvania counties—Adams, Cumberland and Franklin. My hometown of Carlisle is in Cumberland County, less than 10 minutes away from these mountains. This county alone has about 30,000 acres of state land on the South Mountain, most of which is open to hunting. Many of the dirt and gravel roads were constructed back in the 1930s by the Civilian Conservation Corps or CCC as it was known. Yet with all the roads, some of the out of the way areas probably play host to no more than one or two humans in a year.

This area is rated as secondary turkey range by the Pennsylvania Game

Give

GAME NEWS

To a Friend . . .

Commission, yet thanks to this organization the wild turkey is increasing in numbers and quite a few are taken by hunters each season.

Before season I spent numerous early mornings hiding near the sylvan glade which seemed to be the favored landing spot of my big bird when he left the roost. Twice the gobbler was so close I believe I could have hit it with a slingshot. Occasionally a flock of seven hens and one small gobbler would drift through the same area, but the big gobbler was a loner and kept away from the others.

Sometimes the little glade would play host to a small herd of deer. They would browse until they caught my scent, then with electrifying snorts they would crash into the underbrush. Once I watched a small forkhorn scratch his antlers on one of the small pine trees that dotted the glade.

Occasionally I bumped into other people in the area. They were always scouting for everything except turkeys. In fact, the mere mention of turkeys would bring blank stares and evasive answers. I knew I was in for competition, but I felt I had a couple of things in my favor. I had done more

scouting than anyone else. At least, I never saw the same people the second time. In order to avert suspicion from myself I tried not to park in the same place more than once, and I would use my wife's car on occasion.

I was also satisfied that this lone gobbler would not come to the call of a hen. I had used the cedar box call sparingly a couple times in scouting and had called the small gobbler once. Twice sleek hens appeared, but never the old man.

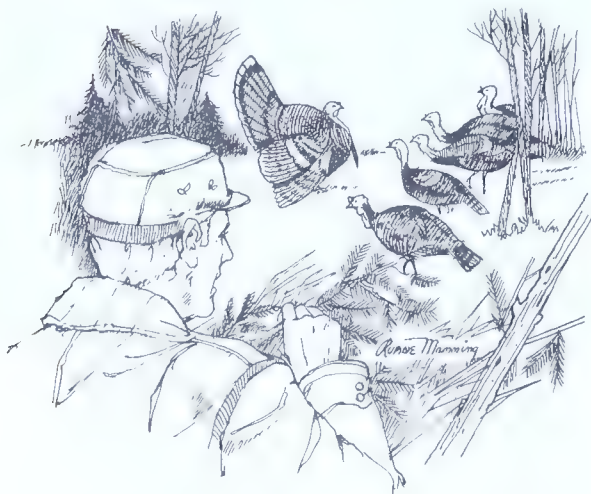
Opening Day Ritual

My opening day ritual has always been field hunting with my dad. Since his first love is rabbit hunting, and since we seldom get to hunt together after opening day, I elected to hunt with him for rabbits and pheasants. Opening time the first day is 9 a.m., a little too late to find the gobbler in his favorite clearing. I reasoned that he would be alerted enough by all the sportsmen getting ready to hunt that he would be long gone by that time. I just hoped he wouldn't blunder into one of the many hunters which would be crisscrossing the woods in search of squirrels, grouse, and turkeys.

Dad and I hunted rabbits and pheasants until one o'clock. With two ringnecks apiece and seven rabbits between us, it didn't take much persuading to get Dad to forsake his favored fields and spend a few hours in Dead Woman Hollow.

I'm told this hollow got its name back in the 1800s. It seems a woman from the Shippensburg area started out across the mountain on foot to reach the Baltimore Pike which crosses this relatively wild area. At that time it was really wilderness. In the course of a blizzard, she missed the road and wandered into the sheltered valley where she apparently froze to death. Her remains were found the following spring, and the valley has been known as Dead Woman Hollow ever since.

Dad, not being a mountain trumper,



BEFORE THE SEASON opened, Shenk spent numerous early mornings near the glade favored by the big bird. Twice the gobbler was close, and occasionally a flock of hens and a smaller gobbler drifted through.

elected to sit in an area and wait for squirrels. I carried a Winchester 218 Bee in hopes for a shot at my gobbler. As it turned out I saw numerous squirrels and three shootable grouse, while Dad, who carried a shotgun, saw one nice turkey at an estimated 75 yards—too far to shoot at with a scattergun. It always seems to happen that way.

One excited hunter told me of shooting at a big turkey at an ineffective shotgun range. He claimed it had a beard, and I felt that it probably was the one I was looking for. Too many hunters cripple turkeys by taking long shots in hopes that by some lucky quirk they will down a bird. Usually this results in wounded birds, many of which run or fly off to die.

I had a few hours to hunt Monday morning, so I planned to be hidden near the little clearing before daylight. Legal shooting time was 7 a.m. This has been changed since to one-half hour before sunrise. How I wish it had started before sunrise that morning! I could still hear the bird walking around and scratching, but a few small trees and 50 yards separated us. I had the feeling this was the gobbler I was after, but I still hadn't seen him.

I checked my watch. It was 7 o'clock and legal shooting time. The 20-gauge over-under in my shaking hands felt inadequate for the job. I did have a magnum load of 6s in each barrel and I was determined to try for a head and neck shot which I hoped would give a clean kill or a clean miss.

A Tiny Sound

Momentarily I expected the bird to appear from cover. Then I was aware of a tiny sound behind me, much closer than the sounds of the other birds. Visions of my gobbler sneaking in from that direction were so convincing that I just knew it had to be him.

Lurching to my feet and swinging around, I found myself eye to eye with a startled deer—the little 4-point I had seen on another occasion. I swung back again in time to see a tre-



LURCHING TO HIS FEET, Shenk swung around, hoping to see his gobbler sneaking in—and found himself eye to eye with a startled 4-point buck.

mendous turkey legging it up the ridge in a mile-eating run. He was too far for my shotgun to be effective. Dejectedly I headed for the car.

Twice more that week I concealed myself near the little clearing, waited for a half-hour, then slowly still-hunted the slopes, hoping at least to glimpse my elusive prize. Once I tried a little "hen talk" on the cedar box. I called in one young bird that didn't look bigger than eight pounds. I wasn't tempted. It was going to be the big bird or nothing. "Probably nothing," I muttered.

Turkey men had told me you seldom can call in the big solitary toms in the field. My gobbler didn't make liars out of them.

I passed up some good shots at grouse nearly every trip, and that was really a sacrifice. It was tough on the built-in reflex acquired from years of grouse hunting. It was getting to me.

It's funny how some unplanned incident can, in a roundabout way, lead to success. Such was the case on November 11, a holiday. I turned the

alarm off without realizing it, and didn't awaken until nearly 8 a.m.

"I'm going up to Dead Woman Hollow," I told my wife, "but as late as it is I don't have very high hopes of seeing the big one." I even failed to don the usual camouflage gear.

I arrived at my parking spot along Mountain Creek at 10 o'clock, ate a sandwich and sipped a cola. The day was too beautiful to waste, sunny and mild. I was in a mood to just walk the rest of the day. And I had to put my standard grouse load in the open barrel— $\frac{3}{4}$ ounces of No. 8s—and a one-ounce load of 6s in the open barrel, for in my haste I had forgotten the magnum turkey loads. "That does it," I said. "I should just forget this darn bird and get back to my grouse hunting, like any sensible guy."

Habit, I guess, sent me toward the hidden clearing. And I suppose it was also habit that made me walk slowly and silently as possible. I reached the edge of the clearing, saw nothing, then decided I'd have to remove something from my boot before I continued on. This was incident number two. I removed the annoying pebble, stood up and picked up my over-under shotgun.

Deer coming, I thought, as the leaf-rustling sound of footsteps reached my ear. I waited to catch sight of a

possible buck, and wasn't quite prepared for what I actually saw.

Stepping regally from the underbrush was my gobbler. I didn't move a muscle. I barely breathed. I felt a thumping in my throat as my heart began to beat faster and faster. I had to force myself to keep calm.

"Forty yards," I told myself. "I'll raise my gun and fire as he passes behind that tiny huckleberry bush."

At the blast of the load of 6s I was off and running. The turkey was down with wings outstretched, but his head was up.

Blam! The load of 8s from 10 yards ended my hunt.

Even now this gobbler was an awesome bird. Close up, he seemed even larger than I had imagined. The sight of that wonderful bird was just too much. Carrying the gobbler and my empty gun, I "floated" back to the car. Never had an autumn day seemed more beautiful.

With the entrails removed, the bird pulled the scales down to 16 $\frac{1}{2}$ pounds at the nearest crossroads store. To me the gobbler was the largest that ever roamed the woods, even though I'll never know what his live weight had been. I do know this. I'll never have a greater thrill or get more satisfaction than I did from bagging the gobbler of Dead Woman Hollow.

Camping Prohibited on State Game Lands

The Pennsylvania Game Commission has adopted a new policy whereby all camping will be prohibited in the future on all State Game Lands throughout the commonwealth.

Until a few years ago, camping had been forbidden on Game Lands by law, but a change in legislation then made it possible to permit camping in self-contained units on a limited basis. Now, state sanitation requirements are such that it will be impossible for the Commission to permit camping at any time anywhere on State Game Lands.

Still With Us, Too

Barnacles have been found firmly attached to other shells that are 15 to 20 million years old.

How Good Is Your Coon Hound?

By Nick Sisley

IF YOU HAVE a good raccoon dog, are you running him in field trials? Many hunters brag up the abilities of their dogs, but only a few are willing to "put up or shut up," so to speak. Those that "put up" are the ones who compete in field trials—and believe me, they are getting more out of their tree dogs than the hunters who are not competing.

Field trial popularity, for all types of hunting dogs, is mushrooming. Coon hound trials are tailor made for the ordinary Tom, Dick, and Harry's who want to see what their dogs will do against competition. The man whose pocketbook might be a little better lined has no advantage here.

Whereas most bird dogs campaigned on the major field trial circuit are never permitted to touch a dead game bird, and whereas field trial beagles are not usually used for hunting purposes (not that most couldn't be, however), coon dogs entered in field trials are, first and foremost, *hunting* coon dogs.

Many different daylight activities are offered during the course of a coon dog field trial. In fact, they are designed so there is something for everybody, and that means the family, because the sponsoring clubs actually cater to hound men who bring the





SPONSORING CLUBS OF COON HOUND field trials try to provide something to interest everyone in the family—women and children as well as men.

lady of the house and the kiddies with them.

An integral part of the actual trial is a bench show. Neither bird dogs nor beagles compete in any show competition, and I think they are missing something by not doing so. Under show rules of the American Kennel Club, they may compete in shows, but they do not do so as part of field trials. AKC bench dogs are fine animals, but, by and large, they have lost the qualities that once made them top-notch field dogs. Fox hound trials also have a show competition as part of the fox hound trials.

Coon hound shows are usually run under rules of the United Kennel Club (UKC) based in Kalamazoo, Mich. There are three classes: Puppy, which is for dogs under a year old; Junior, for dogs under two years old; and Senior, for all age dogs.

Six breeds are recognized by the UKC—Treeing Walkers, Black-and-Tans, Redbones, English, Plotts, and Blueticks. These various breeds compete in a show with only their own kind and sex to start with. That is, a female Junior Bluetick starts out by competing against other female Junior Blueticks. The judges pick the best of each individual class; i.e., Best Puppy

Plott, Best Junior English, Best Senior Redbone, etc. In addition, a Best of Opposite Sex of each of these is named.

Next, all age groups of the individual breeds compete against one another—Best Puppy Bluetick against Best Junior Bluetick, and Best Senior Bluetick, for instance. The end result is naming the Best of Breed for all six recognized coon hound breeds. Finally, the six Best of Breed dogs compete for Best of Show.

A UKC coon hound may become a Bench Champion by winning one Best of Show and 100 points. Twenty-five points are given to each dog that wins a Best of Breed, while 10 points are given for Best of Class. Ten additional points are given for Best of Show.

Once a Bench Championship is attained, a dog then competes only against other Bench Champions. A winner in one of these events is called a Champion of Champions. A dog that wins three such competitions becomes a Grand Bench Champion.

Many clubs, after the formal show is over, have a bench show for youngsters only. These kids may show a dog that has not been entered in the formal competition. It is something to see a little shaver trying to lift an 85-

pound Black-and-Tan up onto the show table. It is funnier yet when he tries to reach the tip of the dog's tail in an effort to hold it up and show the dog to best advantage as he saw his dad do a half hour previously.

Another event many clubs have started as part of their field trial program is called a "treeing coontest." A live coon in a cage is hoisted into a tree on a pulley, and a circle of so many feet is chalked around the perimeter of the tree.

Then, for each hound, the coon cage is lowered so the dog can see it well. He is released, and the coon is jerked back up into the tree. The handler is not allowed to speak, and the dog is disqualified if he leaves the circle. Each dog is normally in the circle for 60 seconds. A judge counts the number of times the dog barks. The dog that barks the most, stays in the prescribed circle, and gets no added encouragement from his handler is the winner and takes the treeing trophy.

All events described thus far are daytime events. Women and children get to see what is going on, and they get to socialize with friends they have met at previous hunts. Many even participate and enjoy the fun themselves. This all points up the fact that coon hound trials are for everybody in the family. If the lady of the house doesn't want to tag along on the night hunt, or if the children must be in bed at an early hour, they needn't miss out on a complete day of fun.

The most important part of the trial is the night hunt. Here is how it works. Names of all entries are thrown into a hat, and the casts are drawn. Four dogs are in each cast, plus the handlers, a judge, and sometimes a guide.

Points are given thusly. The first dog that opens on a trail (if his handler claims he has opened) gets 100 points. The second dog to open gets 75 points, with 50 and 25 points for the other two dogs. If a handler calls his dog first on a trail and in fact no coon is treed, the points are

"minused." This means the dog has to strike another trail first just to make up what he lost on the earlier mistake. The same holds true for any other dog that barks, if no coon is treed.

The handler also calls his dog on a tree. The same sequence of points is awarded for the call to tree as for the call for striking a trail. The dog must not only bark trail or tree, but the handler must also call his dog for doing so before the judge will mark up the points.

The judge keeps the scorecard. Unlike other field trials where judges pass on the performances of competing dogs, it is not the judge's job to do so in night hunts. His task is mostly as a moderator. He settles squabbles between the handlers and makes certain that everything is on the up and up.

Plus points are achieved only if coon eyes are seen at the tree the dogs are on. If there is no coon, and there is no sign of a hole in the tree, the points are minused—all of them, strike and tree points both.

If, however, there is an obvious hole in the tree, or if the dogs are "treeing" at a hole, the points are circled. Circling means just about nothing. It was a cast in which no dog gained or lost any points, and the next thing to do is turn the dogs loose to try to find another coon.

Additional Rules

There are many additional rules, of course. I do not plan to tell you everything about a coon dog field trial. The purpose of this article is to get men with coon hounds interested if they are not already attending these affairs.

Some of the hunts are qualifying trials for the American Coon Hound Association World Championship held each year at Kenton, Ohio. To be able to compete at Kenton a dog must place in the top 30 percent of a sanctioned qualifying night hunt.

In addition to Treeing Walkers, Black-and-Tans, English, Redbones, Plotts, and Blueticks, coon hound

clubs also recognize what are classed as "grade" hounds. These are unregistered dogs that compete against one another in both the bench and night hunt competition. They do not run against registered hounds, only against other grade dogs.

Many coon hound men breed two different colored dogs if they feel the sire and dam can complement each other, and if good pups are likely to result. Doing so precludes registering such animals, but many coon hunters are dedicated to the sport, even though they have never owned a registered hound. These individuals get a chance to compete and have fun, too.

Registered dogs work their way on a point system toward a championship in the night hunts. To gain a championship, a coon dog must attain 100 points against his competition and win first place in *one* night hunt. Here is how he can gain his points. When the night hunt is over, all points are totaled. A winning hound must have "plus" points. The first-place hound is awarded 40 points toward the 100 that he needs for his championship. The second place dog gets 35, third 30, fourth 25, and on down the line to eighth, ninth, and tenth place, which get five points each.

Once a coon hound is a champion, he then competes against other champions only. His handler sets his sights on making the dog a Grand Night Champion. Here is what is required.

He must win a total of five first places in competition against other champions. A title of Grand Night Champion is not one that is easily gained. But that is as it should be, for the dogs that reach this pinnacle are the top dogs in the coon hound world.

Naturally, when a dog has become a Grand Night Champion, his stud fee is greatly enhanced. If he is also a bench dog of note, his use as a stud will be that more important to pros-

pective breeders. His pups are likely to demand a higher price, too. If the Grand Night Champion is a female and she is bred to a Grand Night Champion sire, her pups will demand the highest prices.

But the monetary factor is seldom the motive for attending a dog trial, especially among coon hound men. They have a barrel of fun, and they get out with their canine companions much more often than people who haven't tried field trialing.

Many coon trials are held after the training season is closed. A permit from the Game Commission is necessary for this. A non-field trialer must be content to put his hound in the dog box until the following fall.

The field trialer may attend various types of coon hound events all spring and summer, if he is willing to travel all over Pennsylvania (and sometimes neighboring states) to do so. There are other benefits besides getting his dog out more often than a man who is a hunter only can do. For one thing, he is with knowledgeable hound men all the time. Also, when competing against other hounds, he soon finds out if his dog is all he thought it was cracked up to be, he gets a good understanding of how a top coon dog should perform, and he always has better and better hounds offered to him for sale.

How about you, Mr. Pennsylvania coon hunter? Give one of these coon hound night hunts a try sometime soon. It is not expensive. Bench show entry fees are usually under \$5, most are about \$3. Entry fees in the night hunts are almost always less than \$10.

The prizes are usually ribbons and trophies, although some of the most important trials do give prize money. The biggest ingredient you will find at a coon hound trial, any type of trial for that matter, is fun, fellowship, and companionship.

Fast Grower

A lobster sheds its shell 14 to 17 times during its first year.



Only a Grouse Hunter Would Say It . . .

Ringnecks Should Be Abolished!

By L. James Bashline

MY BEGINNINGS as a small game hunter were simon pure. When one carried a shotgun in northern Pennsylvania during the month of November, the grandest game bird of them all—the ruffed grouse—was what was sought. An occasional shot at a woodcock was acceptable but other flying game was not considered. The truth is, other game wasn't even available, but if it had been it's doubtful if the iron-pants grouse hunters (who always carried double-barreled guns) would have bothered with it. Bird shooting meant grouse. Pheasants—

whatever they were—were not even in the vocabulary.

For a variety of reasons, at age 33 I found myself spirited away from the hemlocks and thorn apples of the north and thrust into the more civilized farm country of southcentral Pennsylvania. The beech brush thickets turned into green briars and the alder flats became cornfields and there wasn't a good drumming log for miles. My bird hunting days were over! Perhaps I might make a trip or two back to the *real* bird country each fall, but hunt ringnecks—not hardly!

The Game Law Violator Is Stealing From You!

My mentors in Potter County told me all about them. They wouldn't lie for a dog. They'd rather run than fly. And when they did finally take to the air, anyone with an ounce of shooting skill could hit them with an air rifle. They're so big, you know.

Weakened Mental Condition

It's not clear in my mind to this day why I consented to even *go* ringneck hunting the first time. Just before the hunting season I had been suffering with the flu and perhaps I was in weakened mental condition, but at any rate I did go that first time. I've regretted it ever since. All the stories I'd heard about ringnecks were true . . . many times over. They did not resemble the far more noble grouse in any manner. They ran a lot. They flushed crazily. They cackled disgustingly (especially when you missed) and would not stay dead, even when you centered them perfectly. A grouse will, and usually does, surprise you on the rise, but it most certainly will not cackle at you nor will it continue to fly away when reasonably well hit.

I have hunted ringnecks many times since that first encounter. Not that I enjoy it mind you, but because I am still trying to prove that ringnecks are a detriment to the American sporting scene. They should all be sent back to wherever they came from (China or some weird place like that, I think). After considerable cogitation and seven hunting seasons spent chasing these foolish long-tailed birds, please allow me to list and discuss the reasons this bird should be abolished.

Ringnecks are too plentiful. Since everyone sees dozens of cockbirds for two weeks before the season opens, it's obvious that shooting the daily limit anytime you go hunting is a foregone conclusion. Too much ringneck in the diet of so many hunters and their families is bad for the meat market business. (*I seldom shoot two birds a day but that's because I'm not hunting in the right places, I'm sure!*) We wouldn't want to upset the economy, would we?

Ringnecks are too noisy. Nothing in this world should utter the unearthly sound that a big rooster makes when he finally decides to fly. That frightening *CAWK, CAWK, CAWK* sound distracts the shooter and often causes him to aim poorly, which in turn may cause a miss. Under normal, non-*CAWKing* circumstances, no grouse hunter would ever miss a ringneck on the rise. (Wonder if they could breed that sound out of them?)

Ringnecks are too colorful. In addition to the unpleasant sound that this strange bird emits, his bizarre plumage is also a point against him. The hens, of course, are not legal targets, which is confusing to the grouse hunter since he knows that all game birds are supposed to be rather drab. Unfortunately, the usual reaction which occurs when a bright male does bounce off the ground and vaults into a clear blue sky, is to immediately mistake it for a hen and not shoot at all . . . or at least not until the bird is completely out of range. (Were it not for this identification problem a competent grouse shooter could not possibly miss a ringneck since his lightning-fast reflexes would be on the bird before it made more than two wingbeats . . . well, maybe three.) This bright color also makes a ringneck very easy to spot, except when he's walking, running, crouching or standing still.

Ringnecks are very bad for dogs. The ordinary level-headed bird dog that hunts and points other more cooperative game birds comes com-

pletely unglued when taken on his first pheasant hunt. He breaks point. He barks. He runs around in circular patterns and occasionally leaves the area you're hunting in, never to be found again. I'm sure most of the goofy behavior displayed by many bird dogs is the result of some contact with this totally ridiculous bird. Even dogs that have never seen a ringneck must carry some of this foolishness in their genes. Undoubtedly one of their ancestors came in contact with pheasants and passed the trait on to succeeding generations. After we are rid of all the ringnecks it may take years to breed all ringneck thoughts out of the minds of our bird dogs.

Ringnecks are too big. Some cock-

FOR A FELLA WHO grew up hunting grouse, ringnecks are beyond comprehension. They're too big, too loud, too gaudy, too—too . . .



birds weigh a full pound more than the rather compact ruffed grouse, and two ringnecks in the game bag make a burden of intolerable inconvenience. In fact, when a hunter is carrying only one, the added bulk in his game pocket frequently causes an imbalance that prevents him from shooting well. Thus, bagging a second ringneck is a more difficult chore. The long tail feathers are also unhandy. They must of necessity stick out one side or another of the game bag, announcing to all that you have in fact shot a ringneck. The grouse hunter is not such an obvious show-off, and besides, a brace of grouse can be carried with great comfort. (Notice that two grouse are referred to as a "brace." Grouse hunting causes more classy words to be used. Two ringnecks are more likely to be called "a coupla' cock-birds" . . . no style at all!)

Ringnecks are too deceptive. Unlike a covey of quail, a woodcock, or a grouse of the year, the ringneck will not sit tight for a pointing dog and flush bravely to take his chances like a gentleman. Instead, he will sneak, scurry, walk or run to the far end of the field and then deliberately fly into the sun, presenting the worst possible kind of shot. He is commonly known to duck into culverts, crawl into woodchuck holes and secret himself beneath brushpiles — all cowardly acts which have a serious side effect on the language of those unfortunate hunters who come into contact with this bird. (It is a known fact that longtime ringneck hunters use many uncouth expressions when hoodwinked. For this reason, men of the cloth who are also hunters usually pursue other species.)

Ringnecks have caused a decline in the aesthetic appreciation of shotguns. This may sound like I'm nitpicking, but hear me out. The grouse hunter has long known that the shotgun for bird shooting must be a well balanced side by side double. Preferably a 20 or 16 gauge. An over/under is acceptable *only* if it is very expensive. Pump guns and autoloaders seem to be much

preferred by ringneck chasers and always in 12 gauge. We have raised a generation of young hunters who actually believe that these mechanical marvels are shotguns. Anyone with an ounce of sense knows this is not so. The mere act of hunting ringnecks with a double will not a bird hunter make. If we are to return to the old and meaningful values, we must give up hunting the long-tailed rooster altogether. (After I explained this point to a cornfield hunter last season, he suggested a place where I could take my double in a manner that was not exactly friendly. The more refined grouse hunter would never have made such a remark.)

Force Myself

With considerable regret I will again force myself to pursue ringnecks this fall. I sincerely wish I didn't have to, but I feel it is my duty to shoot as many of them as is legally permissible. By so doing I may save some other hunter from a lifetime of torture and torment. Having hunted the noble grouse for years prior to seeing my first ringneck, there is no chance that I will fall under the spell of these gaudy creatures and come to believe that they too are game birds. No matter how many times I charge

through the cornfields or stalk into the honeysuckle thickets, I will not allow myself to think of this game as something I enjoy. It's simply my duty.

It's a well known fact that writers in general are a strange lot, and of this group doubtless the most unusual are outdoor writers. They live in a world apart, wandering the fields and forests for weeks on end, sometimes reportedly even conversing with wildlife, definitely out of contact with humanity—at least the outstanding segment of it such as pheasant hunters!—as the odd viewpoints expressed in the preceding article so clearly illustrate. Nevertheless, in order to present a well-rounded picture of the outdoor scene, we felt these comments should be brought to your attention. At the same time, in order that we should not be accused of bias, we have arranged for another writer — a pheasant hunter, no less!—to prepare an article expressing his viewpoint. We hope to present it in next month's GAME NEWS.
—Ed.

Tentative Opening Dates Set for 1972

Tentative opening dates for 1972 hunting seasons have been established by the Pennsylvania Game Commission. The archery deer season next year is tentatively scheduled to open on Saturday, September 30. Early small game season on Saturday, October 14, the 1972 general small game season on Saturday, October 28, and the 1972 bear season is tentatively scheduled to open on Monday, November 20.

The antlered deer season opening date was previously established by commission action as the Monday following Thanksgiving, November 27, 1972.

Potent Pit Viper

According to a federal government publication, "Poisonous Snakes of the World," the most toxic snake (potency per drop of venom) among the North American pit vipers is a subspecies of the Prairie rattler called the Southern Pacific rattlesnake. Second is the massasauga rattler, which is slightly more toxic than the sidewinder.

Elasticity Makes for Longevity

By Carsten Ahrens

SOME ANCESTOR must have looked at the coiled tendrils of a wild cucumber vine and mused, "If I had something like that on the door of my cave, it might stay shut." And after years of experimenting, we enjoy coiled springs on our screen doors, overhead garage doors, and the like, as you of course know.

Vines are curious plants. They behave as all other plants except they haven't the ability to stand erect. So to get up in the world, they insinuate themselves on anything stable. They have a number of devices for holding on.

Boston ivy uses adhesive disks that cement the vine so firmly to a wall that considerable force is needed to tear it loose; so treated the vine is severed from the holdtights that remain intact. English ivy depends on tough aerial roots that occur in 1000-legger-like clusters along the stems. A hefty jerk on the vine often brings off the paint and sometimes some of the wood with the loosened plant. Some vines use modifications of their leaves, stems, or petiole tissues to form sturdy attachments. Others simply twist themselves around isolated objects like poles or trees. Some, like the hop vine, climb clockwise, while others such as the bineweed, counter-clockwise.

But the coil-producing tendrils, such as those of the wild cucumber vine (see photo), are the most ingenious. As these plants grow, they send out slender, prehensile feelers that coil with the twists graduated so that the loops get smaller as they develop farther and farther from the main stem. As the plant grows, the



Photo by Leif Ahrens

COIL-PRODUCING tendrils of wild cucumber are among the most ingenious methods plants have for attaching themselves for stability.

coiled springs elastically anchor a given part from several directions. A strong wind may push the vine one way or another, an animal gambol through, over, or under it, but when the disturbance is past, the plant springs reassemble the vine, uninjured, in its regular place.

Some folks seem to think that all vines can be cataloged into one plant family. Far from it! Poison ivy vine is a member of the sumac family; wisteria, the bean; clematis, buttercup; smilax, lily; trumpet creeper, bigonia; etc. Vining is an ability . . . or disability . . . of many plant groups.

Slow Starters

Condors do not breed until they are five or six years old.



Choice Gamelands—Remote or Accessible—Are Threatened by Population Growth, Industry, and Throughways. Before It Is Too Late We Should . . .

SAVE THE WETLANDS

By J. Almus Russell

Photos by the Author and Don S. Shiner

MARSHES and meadows. Swamps and bogs. Such wetlands should be set aside for hunting, water conservation, flood control and plant growth, as wildlife is dependent upon them.

Wild rice, wild barley, and rank-growing weeds thrive in the wet marshes. They attract and feed migratory birds. Meadow grass and woodland browse feed deer. The black bear eats fish, carrion, fruits, and berries.

Nuts, berries, and succulent barks support the smaller game. Abundant insect life supplies food for the fish lurking in bog pools, meandering meadow streams, flooded swamps, and tidal estuaries.

Early settlers and their descendants ditched, drained and filled the wetlands. They used them for fields, building sites and highways. This procedure spoiled them for flood control as well as for water storage. Peat-cutting

continued the process. And rubbish and waste polluted the fertile soil, changing the ecology.

Marshes have a great attraction for game birds as well as for large and small game. These areas are low, wet, treeless grasslands. They often border shallow ponds, sluggish rivers, and salt-water estuaries. In them, tall grasses and sharp-edged sedges grow in clumps or tufts, forming miniature islands.

Grass growth continues as long as the water level remains high. Silt and dead plant debris smother it. The marsh is also the habitat of small food plants such as the fragrant bayberry, the wild cranberry, and the crawling bramble. Some animals depend upon them for food.

Low-lying meadows originate in swamps flooded by beaver dams. When the water is low, grass comes in, making desirable food stands for

deer. Floating meadow grass, wild grains, and the white flag are favorite fodder.

Swamps are a continuation of marshes and meadows. Red and white hardhack, magenta motherwort, and brilliant colored goldenrod seed into them easily. The marsh elder, high huckleberry bushes, and pussy willows follow.

Hardwood trees make the final change. Red swamp maple, ironwood, and varieties of ash are typical. They make a bushy canopy for the bushes and plants beneath them, and now wildlife begins to have both food and shelter. Even though the swamp is flooded occasionally, new growth will persist unless beaver dams shut off the normal water supply.

Bogs start from swamps and marshes. They may also begin in shallow ponds, pools, and kettle-holes. First, decaying vegetation, floating sedge, and sphagnum moss rise to the surface, making floating islands. Then bushes and vines take root on them. The angler may stand on one of these without sinking. Dropping his line into a deep pool he may pull out a gleaming black catfish.

When the floating islands combine, they form a bog. They usually start from the edge of the water and spread out toward the center. Small open areas of water remaining are called "eyes."

Peat and Muskeg

Bogs fall into two principal classes—peat and muskeg.

Peat bogs form layers of decayed vegetation resting on a clay, sand, or gravel foundation. As water is stored in the bog, one or more layers of peat rest on top of the water. In turn, the peat furnishes a supporting floor for the plant and tree growth. Pitcher plants, buttonballs, and wild calla lilies take root. These growths may be followed by blueberry bushes, cat-tails, and winterberries as more loose soil accumulates.

In southern Canada, black spruce

grows freely on the muskeg bog. Farther south, white cedar takes its place. These bogs are lined with a spongy, sphagnum moss, varying in color from a reddish gray to a pale green. This wet carpet acts like a huge sponge. It evaporates great quantities of water, thereby cooling the area. As a result, this favors northern plant growth and animal life.

Wild cranberries often grow in the more open spots, hence the popular name, cranberry bogs. The tart berries grow rankly on hummocks and tussocks, also as seedling vines in the wet grass and moist moss.

Soon, small game is waiting for the sportsman who doesn't mind quaking ground and moist footing. The story is told of a cranberry-picker who jumped up and down on the spongy surface, shaking his companion 50 yards away.

Red and gray squirrels are found on the edges of bogs, particularly if walnut, butternut, and beech trees



LARGE BEAVER DAM has backed up water to unusually high level here. Such dams often make bogs or swamps out of low-lying forest areas.

grow nearby. Some like to live in hollow trees, some build "nests" in clumps of vines, others burrow into the ground beneath hollow stumps. They make roads to and from their homes, sometimes along treetops, at other times on the ground.

Small Mammals

The woodchuck burrows into the sandy hummocks, locating his holes near a clean water supply. It feeds upon green shoots, plants, fruits, and vegetables. Rabbits prefer dryer spots where shrubs, plants, and grass are plentiful. Coons live on fish, frogs, smaller animals, and fruits. Turtle eggs, snakes, and small birds give variety to their diet. Possums also roam the wooded sections. They eat crabs in the salt marshes; snails in the freshwater areas; and mice, spiders, and carrion everywhere. When attacked this rodent stays quiet and "plays possum."

Beavers create open meadows and bogs by raising the water level in forests and swamplands. This animal builds a winter lodge somewhat larger than that of the muskrat but of

coarser materials. It lives on the barks of hardwoods.

Bogs and meadows where they can find plenty of vegetable food provide the homes of muskrats, sometimes called marsh rabbits. In the winter, they build conical houses of reeds mixed with clay. In warm weather, they desert these lodges, living in bank burrows above the waterline.

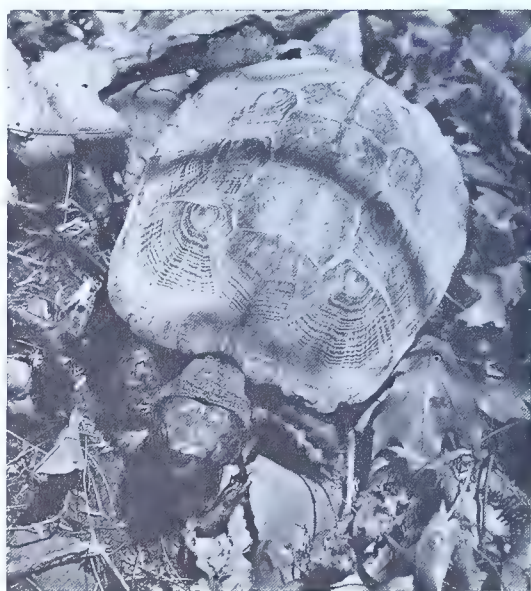
Porcupines roam the bogs as well as the forests surrounding them. They feed on delicate buds, wild fruits, and barks, especially hemlock. They do not shoot their quills. However, any quills that are stuck in the skin should be pulled before they work out of sight into the meat. A good method of preparing the flesh for eating is to singe the quills, make an incision in the quill-less belly, then skin and dress it, cooking it like pot roast. Cooking the meat by merely tossing the body into the fire, as some recommend, is poor practice. The quills may not all burn off, and much of the delicious fat may be lost.

The wetlands are full of game birds. Partridges, grouse, and wild turkeys roost in the evergreen trees. During

CRANBERRIES GROW ON low creeping vines, are often found near streams, in isolated bogs or remote meadows. Ripe berry is whitish pink to red.



BESIDES SUCH LIFE forms as fish, frogs, mussels, snails and insects, turtles also are often found in wetlands and ponds.



the day, they may be found in the openings of bogs, marshes, and meadows. Here they feed on grass seeds, insects, small fruits, berries and similar things.

Springs often form the headwaters of brooks, trickling along until they join other rivulets. Occasionally a trout will find its way upstream, rewarding the angler for his efforts.

Here and there, turtles sun themselves on fallen logs. They waddle through the bogs, digging holes in gravelly hummocks in which they lay their eggs. They feed on all kinds of fish, frogs, mussels, snails, and insects that come within their reach.

Bog-Trotter

A bog-trotter may see what appears to be a bit of moss and earth make a long sudden leap. The view turns into a brilliant green-spotted frog with two light-yellow raised stripes running down its back. Green pools streaked with a ray of sunlight give its protective coloration. Its sonorous bass notes—*jug-o-rum*—are heard on early summer evenings. Sometimes they sound like the very deepest notes of a cello.

Moist acreages already are set apart in 14 of our national parks. National wildlife refuges contain scenic marshlands located in the midst of 30,000,000 acres. They include 300 separate preserves.

Eastern Pennsylvania has its own cranberry bog preserve, located in the Pocono Mountains—Bruce Lake Natural Area in Pike County. A nationally-organized conservation agency, the Nature Conservancy, together with the help of interested local citizens, helped in its formation. Central Pennsylvania has another, Bear Meadows, near State College. Many more should be rescued—nationally, statewide, and locally—through public support.

Safety Valves

Our wetlands conserve plant and animal life. They are safety valves for flood control and water storage. They



SHALLOW PONDS SUCH as this often border marshy areas. Sedges, weeds and marsh grass will gradually fill the pond, attract game birds to area.

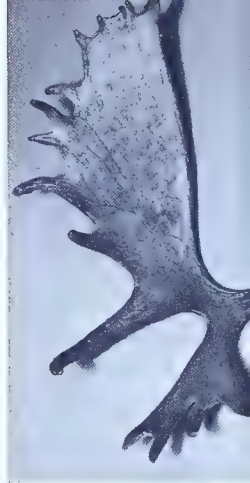
are important for hunting, fishing, and public recreation. Their permanent value must be publicized among naturalists, outdoor enthusiasts, and water and soil conservationists as well, if they are not to disappear.

People must learn the proper ways of protecting them from industrial pollution, sewage disposal, and public refuse. They must prevent the drainage which threatens the lives of birds, animals, and fish. They should avoid introducing one species of life which may destroy another.

Fortunately, there is still time to save these natural resources. Much acreage is still purchasable at relatively small expense. The responsibility is everyone's. Act before it is too late. Save the wetlands.



RAFAEL CANO, Chihuahua, Mexico, collected best mountain caribou (left) of competition, 425-5/8. Bill Walker's pronghorn, above, measured 87 for the Reno, Nev., hunter.



BEST CANADA M
Vincennes, Ind., wi

Boone and

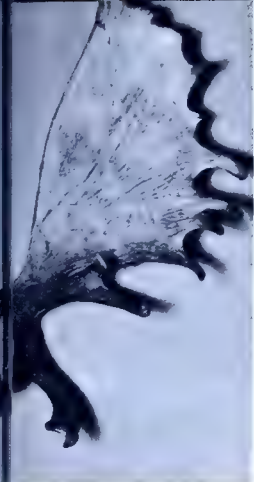
THE 14th North American of the Boone and Crockett Museum in Pittsburgh. Sportsmen honor those hunters who took species during 1968, 1969 and for entry into the records books made in the black bear, grizzly categories. The Boone and Crockett Roosevelt and some friends rifle and works for game and sportsmanlike methods of hunting the quantity of game bagged and collects data on these in *Game*, a new edition of which

Photos by



PAUL MUEHLBAUER, Denver, Colo., took top typical mule deer rack, above, which scored 214-3/8. Bob Jackson, Tullahoma, Tenn., bagged best Stone sheep, below, 183-1/8.





Jerry Brocksmith,
211-5/8.



407-POINT WAPITI above was taken
by Bob Young, Dillon, Colo. J. R.
Reuter, III, Seattle, collected Pacific
walrus, above left, which scored
127-2/8.

ett Awards

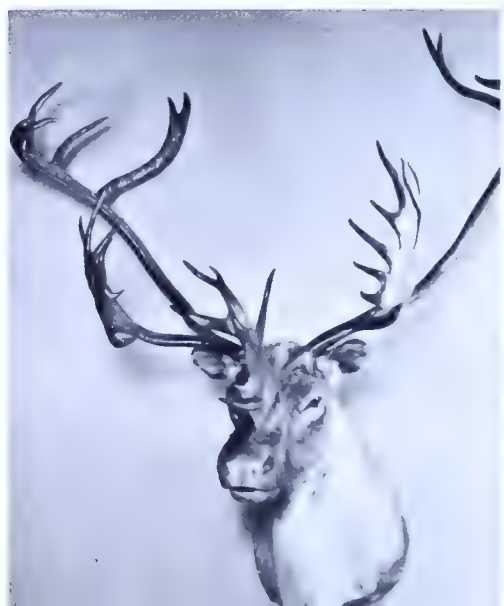
Competition Awards Meeting
ld in May at the Carnegie Mu-
ver the continent gathered to
g trophies of North American
imately 1100 trophies qualified
iod. New world's records were
Columbia blacktail deer cate-
ch was organized by Theodore
omotes manly sport with the
ervation. The club encourages
phasizes the quality rather than
standards for ranking trophies
records of *North American Big*
ed this year.

aki, courtesy of Carnegie Museum



BOB RANTZ, Williams, Ariz., downed
282-3/8 non-typical mule deer, above. Jim
Tappan, Sayre, Pa., bagged Quebec-Lab-
rador caribou, below. It scored 394-1/8.

JIM WILSON, Ketchikan, Alaska, took
best Rocky Mountain goat, left. It scored
55, while non-typical Coues deer below
went 142-6/8 for Phil Rothengatter of
Tucson.





199-4/8 TYPICAL WHITETAIL taken by Jeffrey Brunk, Revere, Mo. Center, 256-2/8 non-typical of Carroll E. Johnson, Moorhead, Iowa. Right, typical Coues deer shot by Diega Sada, Monterey, Mexico, 120-4.



DESERT SHEEP, above, collected by Lit Ng, Salinas, Calif., scored 191-6/8.

MAURICE KATZ, Avon Lake, Ohio, bagged 171-1/8 Dall sheep, above. Joseph Shoaf, Irving, Texas, took 458-6/8 barren ground caribou, bottom left. Alaska-Yukon moose, below, scored 249-2/8 for George Markham, Battle Creek, Mich.





FIELD NOTES



One Method

SCHUYLKILL COUNTY — After picking up pheasant chicks, young rabbits and several fawn deer from persons in my district, I have come to the conclusion that old Mother Nature goofed when she created young wildlife. Instead of being such beautiful, cuddly little creatures, they should be ugly as heck and bite and claw anyone who tries to pick them up. Perhaps this would prevent much of the unnecessary kidnapping of our young wildlife. — District Game Protector S. L. Opet, Hometown.

Hang in There, Dean

BRADFORD COUNTY—The sportsmen of my area are always asking me, "Why don't you put a Field Note in *GAME NEWS*? I always give them the same answer—that I submit at least one every month but for some reason they are not used. — District Game Protector D. C. Beach, Towanda.

Silent Lesson

LAWRENCE COUNTY — When driving to a local trout stream, one of my deputies observed a fisherman cross the road and enter his vehicle. Before Deputy West came to the parked car he noticed the door on the driver's side open momentarily as something was thrown from the auto onto the road. West stopped long enough to pick up the article, an empty cigarette package. Deputy West handed the empty package to the fisherman who sheepishly accepted it and thanked the deputy for picking it up. Officer West drove off without comment.—District Game Protector C. A. Hooper, Jr., New Castle.

Bird Benefits

FOREST-WARREN COUNTIES—This spring Food and Cover personnel erected about 40 bluebird houses which they built over the winter. A rewarding 90+ percent are being used, about half by bluebirds and the other by three swallows. Gives your work a quick and very satisfying feeling of purpose.—Land Manager D. W. Gross, Marienville.



Pepi the Protector

LANCASTER COUNTY—When I arrived at Deputy Paul Brandt's place to pick up a 24-hour-old fawn he had received, his daughter's miniature poodle had other ideas. The poodle not only protected the visitor with a front paw over the fawn (which was bigger than he), but Pepi would also snap at anyone coming close to the box in which the fawn was lying—even his own family. Success came when Deputy Brandt got Pepi into another room and I departed very quietly with the fawn—trousers still intact.—District Game Protector R. E. Gosnell, Millersville.



And What Did You Say?

ERIE COUNTY—Following a conservation lecture at an elementary school, I received many questions regarding wildlife. Some were quite thoughtful and others were humorous. For example, “Mr. Game Protector, how do you tell the difference between boy frogs and girl frogs?”—District Game Protector A. C. Martin, Erie.

Good to Know!

CLARION COUNTY — While on patrol near Sligo accompanied by District Game Protector Bowers, we stopped two young boys who had an air rifle. I asked them what they were hunting and they both stated nothing. I asked if they were shooting at birds and the one lad answered with a great amount of enthusiasm, “Heck no, man, we’re on your side!”—District Game Protector A. N. Pedder, Clarion.

Don’t Mess With This Guy!

WYOMING COUNTY—On a recent bear damage claim near Factoryville, I spoke with several people about the animal and one young fellow spoke up and said, “I’m not afraid of an old bear. I know how to use karate and will take care of him that way if he comes after me.”—District Game Protector A. J. Kriefski, Tunkhannock.

Good Question

FRANKLIN COUNTY—It appears that a small percentage of our woodchuck hunters are again making it rough on the good hunters in Franklin County. I have received several complaints of chuck hunters getting too close to houses. Another big problem we have is the practice of hanging dead woodchucks on a fence after they are killed. If these hunters are proud enough to walk into a field after a dead woodchuck and then put it on a fence to rot, why don’t they take them home and hang them in their yards?—District Game Protector I. D. Mort, Chambersburg.



Just Visiting

MONROE COUNTY—I received a phone call one evening from a rather excited gentleman, and upon explanation I couldn’t blame him. His dog had been barking for about an hour and he decided to investigate. As he stood in his yard with only a flashlight he could hear what he said sounded exactly like a horse snorting nearby. Not seeing anything in the yard, he walked over under a red maple tree where the sound was originating. Then came another loud snort from up in the tree. Shining the light up he saw a large black bear perched about five feet directly above him. Obviously the investigation ended quickly at that point.—District Game Protector D. E. Overcash, Stroudsburg.

Pays to Advertise

MERCER COUNTY — While answering a complaint in the Sharon area, Law Enforcement Assistant Virgil Rea and I observed a couple of signs along the road that made us laugh. The first, in a congested area, read "Dear Crossing." Farther down the road a house with a few big trees in the yard displayed a sign reading, "Drive carefully, our squirrels can't tell one nut from the other." These signs must be effective, for even I slowed down to read them.—District Game Protector J. A. Badger, Mercer.

That Would Be Discouraging

ERIE COUNTY—Game Protectors' wives always seem to have it rough. My wife was all excited about moving into our first house, which took us 2½ months to find, but her spirits were dampened when three days before we were to move in a tornado hit and put a very large maple tree down across it.—District Game Protector W. A. Lugaila, Waterford.



Point of View

JEFFERSON COUNTY—Recently, I was obliged to trap and remove a bear that was branded a nuisance. It seems when the bear was being fed hot dogs, stale bread, discarded meat and assorted leftovers, he was considered "cute." He also provided a good subject for photographs. But when he decided that the goodies weren't coming fast enough or often enough and began to look for hand-outs, he quickly became a problem. One can't help but wonder how long it'll take to coax another bear along to the "problem" state.—District Game Protector J. Heider, Brookville.



Something Significant Here

MIFFLIN COUNTY — The heart-beat of animals varies according to the size of the animal. An elephant's heart (weight about 48 lbs.) beats only 25 times per minute, while the heart of a mouse beats from 600 to 700 times per minute.—District Game Protector J. D. Moyle, McVeytown.

The Hard Way

BEDFORD COUNTY—Preparatory to going to Canada on a fishing trip, a friend gave his wife instructions on the fine art of casting, as she had never fished before. Out in the boat on the day of arrival at camp, my friend's wife was busy casting and retrieving the lure when a strange thing happened. Somehow, she cast the handle off the reel. Quick to improvise, she started to retrieve the line by winding it around the handiest object she could get hold of. Wouldn't you know it? She caught and landed her first fish ever, a walleye, while wrapping her line around a pair of sunglasses.—District Game Protector C. J. Williams, Bedford.

One Guy's Opinion . . .

CLEARFIELD COUNTY — While presenting hunter safety courses I always get some unusual questions from the students. This spring a young gentleman (12 years of age) in the front row raised his hand and asked, "Do you really shoot poachers?" I replied that we did not. He said, "Well, I think you should."—District Game Protector C. L. Keller, Clearfield.

There Are Boys . . . and Boys

LYCOMING COUNTY — During early June the Boy Scouts and other civic groups coordinated their efforts and did a terrific job in cleaning up litter along our highways. It was heartwarming to see people concerned with our environmental crisis and attacking the problem. Later that same day I observed three young men throwing numerous papers out along a highway and was fortunate enough to apprehend them. The first words they said were, "Please give us a break, we won't do it again." Care to guess how much sympathy was shown?—District Game Protector R. G. Clouser, Montoursville.

Browse

LUZERNE COUNTY—Bob Hart of Nescopeck, owner of Hart's Rifle Shop, told me that this past winter they decided to cut browse in the area of their cabin on weekends. In deep snow, 10 men cut nearly 20 acres and Bob reports that deer really utilized the fresh browse. We have some local hunters who criticize the nonresidents, but out of the 10 browse cutters, seven were from New York. Sometimes one wonders just which persons are more interested in helping wildlife.—District Game Protector R. W. Nolf, Conyngham.

Lookin' for a Buddy?

VENANGO COUNTY — Imagine the surprised look on a young girl's face the other night as she was driving a Volkswagen near Seneca and a large black bear came running out of a field full speed and didn't stop until it ran right into the side of her car. The right side of the auto was badly damaged and the impact moved the little car sideways into the next lane on the highway. The bear ran off unhurt.—District Game Protector L. E. Yocum, Oil City.

Oughta Practice What They Preach

FULTON COUNTY—While on assignment at our Training School near Brockway, I was riding with Assistant Superintendent Paul Glenney. Someone had dumped a quantity of trash near the school entrance. The litter contained a poster stating: Keep America Beautiful—Don't Litter.—District Game Protector C. E. Jarrett, McConnellsburg.



Brainwashed!

WESTMORELAND COUNTY—My wife and I are expecting an addition to the family and we decided to tell our four-year-old daughter. We asked if she would like a baby brother or a baby sister. Without any hesitation at all, she said, "A baby deer."—District Game Protector S. E. Lockerman, Pittsburgh.



CONSERVATION NEWS



By Ted Godshall

Goose Blind Applications to Be Accepted September 1

APPPLICATIONS for hunting from goose blinds at the Pymatuning Waterfowl Area in Crawford County will be accepted from September 1 through October 1. Ray M. Sickles, waterfowl management agent, said 40 blinds, each accommodating four persons, will be used during the 1971 season.

There will be four shooting days each week of the season. Blinds will be available on Mondays, Wednesdays, Fridays and Saturdays.

A drawing will be held in early October to select 40 blind holders for each shooting day of the season. Since each blind holder is permitted to take three guests, 160 hunters can utilize the goose area each shooting day.

The following rules and regulations will be used in applying for reservations:

Reservation requests must be made on official application forms and must be submitted to the Pennsylvania Game Commission, Pymatuning Waterfowl Area, RD 1, Hartstown, Pa. 16131.

Only one application may be submitted per person.

The applicant's 1971 hunting license number, including the letter, must be listed on the application.

Applications must be postmarked September 1 through October 1; any postmarked earlier or later will be timed.

Only successful applicants, as determined in the drawing, will be notified.

Registrations are not transferable. The successful applicant whose name appears on the reservation must pre-



OVER 26,000 SPORTSMEN applied for the 1,000 available goose blind reservations at Pymatuning last year. More are expected this year.

sent the reservation in person at the Pymatuning Waterfowl Area headquarters (registration building) located on Legislative Route 20006 between Hartstown and Linesville about four miles north of Hartstown.

A reservation will entitle the applicant to bring not more than three guests with him. Guests will be present and register.

Hunters should arrive at least one hour before shooting time to allow for the issuance of permits.

A federal migratory bird hunting stamp (duck stamp) is required to hunt geese. 1971 hunting licenses and duck stamps must be presented at the check station.

All reservations for any one day will

be valid only up to one-half hour before shooting time on the specified day.

Shooting hours for the Pymatuning goose blinds are from one-half hour before sunrise until noon prevailing time, except on October 30, when no hunting is permitted for any wild birds or wild animals in Pennsylvania before 9 a.m.

Sportsmen shall be limited to one visit per hunter per season on the goose area.

Season dates and bag limits will be established later.

Applications for hunting from the Pymatuning goose blinds are available from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120; or any of the six field division offices of the Game Commission; or from any game protector; or the Pennsylvania Game Commission, Pymatuning Waterfowl Area, RD 1, Hartstown, Pa. 16131.

The Pymatuning goose blinds are among the most prized hunting reservations in Pennsylvania. Last year, a record 26,208 sportsmen applied for the 1000 available reservations.

In addition to the goose shooting area, there are also three controlled duck shooting areas at Pymatuning. Fifty hunters can be accommodated in each of these three areas, making it possible for 150 hunters to utilize the duck areas on shooting days.

Shooting days for the duck areas are also Mondays, Wednesdays, Fridays and Saturdays, and duck area shooting hours are the same as for the goose area. Geese may not be taken in the controlled duck shooting areas.

While the duck areas are controlled shooting sections, there are no advance reservations. Shooters are eligible on a first-come-first-served basis on each shooting day. Those using the duck areas must check in at the registration building.

**PENNSYLVANIA GAME COMMISSION
SUMMARY**

**1971 SEASONS AND BAG LIMITS
DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK**

Species	Open Seasons		Daily Bag Limits	Maximum Possession Limits
	First Day	Last Day		
Doves	Sept. 1	Nov. 9	12	24
† Rails (Sora and Virginia)	Sept. 1	Nov. 9	25*	25*
Gallinules	Sept. 1	Nov. 9	15	30
Wilson's or Jacksnipe	Oct. 11	Dec. 14	8	16
Woodcock	Oct. 16	Dec. 18	5	10

† NO OPEN SEASON—King and Clapper Rails.
* Singly or in the aggregate of species.

SHOOTING HOURS

Doves—12 noon, prevailing time, to Sunset.
Rails, Gallinules, Snipe, Woodcock—One-half hour before Sunrise to Sunset (except on October 30 when the opening hour will be 9 a.m.)

MISCELLANEOUS REGULATIONS

FEDERAL MIGRATORY BIRD HUNTING STAMP ("DUCK" STAMP) **NOT REQUIRED TO HUNT DOVES, RAILS, GALLINULES, SNIPE, WOODCOCK.** BOW AND ARROW, SHOTGUN PLUGGED TO NO MORE THAN 3-SHELL CAPACITY ARE LEGAL; RIFLES AND PISTOLS ARE PROHIBITED. **NO HUNTING ON SUNDAY.**

Antlerless Deer License Procedures Are Outlined

COUNTY TREASURERS throughout the state will begin accepting applications for antlerless deer licenses on September 20. They will start issuing the licenses on Monday, November 8. Dates for the 1971 antlerless season are December 13 and 14.

Each county treasurer decides how applications are to be received and how licenses are to be issued for his own county. The treasurers operate within general rules agreed to by the County Treasurers Association and the Pennsylvania Game Commission.

The cost of an antlerless deer license is \$1.15, and may be issued only to a holder of a current valid resident, nonresident or alien hunting license. If the antlerless license is to be mailed, the remittance should include an additional sixteen cents for postage.

Nonresidents may not be issued an antlerless deer license this year before November 13.

Each application for an antlerless deer license must show the 1971-72 hunting license number. Some county

treasurers require that envelopes containing applications be marked "Antlerless Deer Applications" or "Doe Applications," as well as the number of applications in the envelopes.

An application form is issued with each hunting license.

An antlerless deer license is valid only in the county in which it is issued. Only county treasurers are authorized to issue antlerless licenses.

Each county's quota of antlerless licenses was established by the Game Commission in June. Statewide, 313,850 antlerless licenses were authorized for this year by the Game Commission. The quota is 24,650 less than last year's authorization.

Pennsylvania residents who are members of the armed forces on full-time active duty or who have been honorably discharged within 60 days of the date of application may be issued antlerless licenses by county treasurers even though the county's quota of licenses has been exhausted. These licenses are available only to individuals who could not anticipate military leave or discharge and file applications for antlerless licenses during the regular filing period.

County treasurers do not issue free antlerless licenses to anyone, servicemen included.

The Game Commission has urged all county treasurers to promptly return applications to the senders after the county's allocation of antlerless licenses is exhausted. This will permit hunters to send applications to other counties where antlerless licenses are still available.

The table on the next page summarizes the procedures established by the various county treasurers for receiving applications and issuing antlerless deer licenses for 1971. The number in parentheses indicates the maximum number of applications that will be accepted from any individual, either by mail or in person.



Photo by Leonard Lee Rue, III

How to File Application for 1971 Antlerless Deer Licenses

APPLICATIONS ACCEPTED IN PERSON ONLY

(Licenses will be mailed)

Mercer	(6)
Venango	(3)

APPLICATIONS ACCEPTED BY MAIL OR IN PERSON

(May be picked up in person or will be mailed)

Clinton (1 by mail out of county) ..	(2)
Delaware	(6)

(All licenses will be mailed)

Adams	(1)
Allegheny	(6)
Beaver	(6)
Bedford	(5)
Butler (1200 over counter)	(4)
Cameron	(6)
Carbon	(2)
Chester	(6)
Columbia	(1)
Crawford	(6)
Erie	(6)
Fulton	(5)
Huntingdon	(6)
Juniata (4 by mail, 6 in person) ..	(6)
Lancaster	(6)
Lawrence	(6)
Lehigh	(6)
Lycoming (2 by mail, 6 in person) ..	(6)
McKean	(4)
Mifflin	(6)
Montgomery	(6)
Montour	(5)
Northumberland	(1)
Pike (out of county by mail only) ..	(3)
Susquehanna (out of county by mail only) ..	(6)
Tioga	(6)
Warren (1st day over counter) ..	(6)
Washington	(2)
Wayne (out of county by mail only) ..	(3)
York	(4)

APPLICATIONS ACCEPTED BY MAIL ONLY

(Licenses will be issued by mail only)

Armstrong	(1)
Berks	(1)
Blair	(1)
Bradford	(6)
Bucks	(6)
Cambria	(6)
Centre	(1)
Clarion	(2)
Clearfield (money orders only) ..	(1)
Cumberland	(1)
Dauphin	(1)
Elk	(2)
Fayette	(4)
Forest	(6)
Franklin	(2)
Greene	(6)
Indiana	(1)
Jefferson	(1)
Lackawanna	(6)
Lebanon	(6)
Luzerne	(6)
Monroe	(1)
Northampton	(1)
Perry	(2)
Potter	(3)
Schuylkill	(4)
Snyder	(1)
Somerset	(2)
Sullivan	(6)
Union	(6)
Westmoreland	(1)
Wyoming	(3)

All envelopes must be marked "Doe Applications" or "Antlerless Deer Applications" and number of applications enclosed.

Return address *must* be on the outside of all envelopes or application will be voided.

Applications will be accepted only on and after Monday, September 20, 1971. All licenses will be issued on and after Monday, November 8, 1971.

Numbers in parentheses indicate number of applications accepted from one party by County Treasurer.

Procedures outlined above were set up by the County Treasurers of each county. Information compiled by the County Treasurers Association and printed here as a service to GAME NEWS readers.

Note: When mailing in application, be sure to include 16c return postage.

Game Commission Asks License Fee Increase

THE Pennsylvania Game Commission has asked the Legislature to increase hunting license fees in the state. The Commission is asking that the junior resident license fee be increased from \$3.20 to \$5.20, that the adult resident license fee be increased from \$5.20 to \$8.20, and that the non-resident hunting license fee be increased from \$25.35 to \$40.35.

Hunting license fees were last increased in the state in 1963. At that time, the resident fee went from \$3.15 to \$5.20, and the nonresident fee from \$20 to \$25.35. Junior resident licenses for hunters 16 years of age and under were created in 1963.

For three consecutive years, Game Commission expenditures have exceeded revenues. The deficits have been made up by drawing on Game Commission reserves, which are steadily dwindling.

Since 1963, the Game Commission's costs have risen about 100 percent.

During the fiscal year ending June 30, 1963, Game Commission expenditures totaled \$5,972,050. In 1965 expenditures were up to \$6,821,869. By 1967 operating costs were \$7,243,653, and the figure rose to \$9,592,222 in 1969. Last year expenditures totaled \$11,100,217, and projected expenditures for this year are \$12,500,000.

As inflation continues, operating costs will rise just to maintain the present level of activity, and revenues will need to be increased accordingly just to "stay even." Any expansion of present programs will cost considerably more, and income will have to be increased significantly.

Many of the increased costs of operating the Game Commission's programs are mandated—items which will continue upwards and about which the Commission can do nothing. Other higher costs are in accord with the wishes of the state's sportsmen for more activity in certain phases of the Commission's operations.

As examples, sportsmen have supported and pressed for better pay for Game Protectors for years. While pay scales have improved, game conservation officers' earnings are still well below desired levels. Along with increased salaries, costs of employee benefits rise accordingly; but benefits for state employees remain well below those afforded by private industry.

Sportsmen have asked for additional emphasis on acquisition of land to be used for public hunting. Outlays for this activity have quadrupled since 1963.

The state's sportsmen have pushed for more land development and better maintenance of food and cover for wildlife production. They have sought avoidance of vacancies in the field districts so that immediate service is always available. There are opportunities for expansion of cooperative programs for keeping land open to hunting.

All of these items cost money, but will not be possible unless there is an increase in the Game Commission's revenues.

Self-Supporting Agency

The Game Commission is a self-supporting agency not dependent upon appropriations of tax monies from the general fund. Most of the Commission's revenue comes from the sale of hunting licenses.

No attempt is being made to increase fees for other licenses, such as archery, antlerless deer, etc.

The Game Commission feels that an across-the-board increase in the major hunting license categories is the most equitable solution, rather than selective and discriminate increases involving only a certain segment of the hunting public. The proposed percentage of license fee increase is approximately the same for all three major categories of basic hunting licenses.

IN THE NAME AND BY AUTHORITY OF THE
COMMONWEALTH OF PENNSYLVANIA

GOVERNOR'S OFFICE
HARRISBURG

Proclamation

PENNSYLVANIA SPORTSMEN'S DAY—SEPTEMBER 26, 1971

More than one million of Pennsylvania's citizens are licensed hunters, and another large percentage of our citizens are privileged to hunt on their own properties without licenses.

Nearly a million citizens with purchased licenses, and another large percentage of our citizens, landowners and youths under 16 years of age, fish the waters of the Commonwealth without licenses, while other millions of our citizens pay for and enjoy other forms of outdoor recreation in camping, boating, archery, target shooting, photography and other sports.

The sportsmen of the Commonwealth are constantly promoting and conducting programs to insure that a fair share of our natural resources will be conserved for future generations of citizens.

The programs of the millions of outdoor sportsmen and conservationists provide a valuable asset to the economy of the Commonwealth and the welfare of the entire citizenry of Pennsylvania by encouraging good citizenship, conservation education and rules for safety in all outdoor activities. The expenditures involved in these outdoor sports and recreation have been found to indicate through official polls, that some four billion dollars annually are spent by those who participate in them.

The state departments and agencies whose responsibilities are to manage the natural resources of the Commonwealth receive commendable support and assistance from the organized sportsmen and conservationists.

It seems proper and fitting that these millions of sportsmen and conservationists be recognized by all of their fellow citizens, and by the Nation.

Therefore, I, Milton J. Shapp, Governor of the Commonwealth of Pennsylvania, do hereby proclaim that Sunday, September 26, 1971, shall be observed as PENNSYLVANIA SPORTSMEN'S DAY in Pennsylvania, and urge all sportsmen's groups to observe the day with demonstrations of their sports and skills for public witnessing, and furthermore urge all citizens to attend and enjoy such demonstrations.

GIVEN under my hand and the Great Seal of the State, at the City of Harrisburg, this twenty-second day of June, in the year of our Lord one thousand nine hundred and seventy-one, and of the Commonwealth the one hundred and ninety-fifth.

MILTON J. SHAPP
Governor

By the Governor

RONALD J. PETTINE

Deputy Secretary of the Commonwealth

How to Make . . .

Venison Jerky

By George E. Dolnack, Jr.

NEARLY everyone who eats venison has his own favorite recipe for preparing this distinctively flavored meat. But if you want an extra special treat after you bag that next deer, try venison jerky.

This delicacy is not prepared by cooking, but by salting and drying, one of the oldest methods of curing fresh meat. This process serves two purposes. It preserves the meat for future use and it gives the meat additional flavor.

Venison jerky is easy to prepare. With the exception of the meat, you'll find everything needed right in your own kitchen. You can even prepare it in camp after bagging that deer. Incidentally, jerky is a corruption of the Spanish word *charqui* (char-kee) which means "dried meat."

Frozen venison is not recommended for jerky for several reasons. First, once the meat thaws, the cell structure breaks down and causes the meat to lose its firmness. Secondly, it is more susceptible to spoilage because microorganisms will attack it more rapidly than fresh meat. In addition, jerky made from frozen venison does not retain the flavor found in fresh meat nor can it be stored for an extended period and still be palatable.

Preparation

Here's what you'll need to make venison jerky: a piece of fresh lean venison haunch steak or rump roast, a sharp knife, salt, pepper, allspice, cinnamon, a non-metallic container and paper clips.

Trim all excess fat from the venison and slice against the grain into strips a half-inch thick and two to three inches wide. Strips of this thickness will take seven days to cure and are



THE FIRST STEP toward venison jerky of course is getting some venison. The Vinroe family of Ellwood City seems to have the answer here, as shown by four fine bucks taken by Dale Vinroe and his sons, Dean, Darryl and Dale, Jr.

easy to store. Thicker pieces will take proportionately longer and thinner pieces less time to cure.

Next, lay all the pieces out, salt the top side just enough so that it looks like there is one layer of salt grains on the meat, and pepper lightly. Additional flavor can be imparted to the venison by sprinkling with a bit of cinnamon or ground allspice to suit individual taste. Remember, making jerky is an art, not a science.

After salting and flavoring one side of the venison, place one layer treated side down in the container. Now treat the top side in the same fashion.

Place successive layers crisscross on top of the first and repeat the procedure until all of the venison is in the container.

Place the container in the refrigerator for 24 hours. During this time, the salt will penetrate the meat and draw the excess moisture from it. When the 24 hours are up, remove

from the refrigerator and pour off moisture. The venison is now ready to be dried.

Drying

Drying out of doors where full advantage can be taken of the sun and wind is the best method for curing. However, you must protect the meat from rain and flying insects, either of which can ruin a good piece of venison in a very short time—something no hunter wants to have happen.

A screened enclosure, hinged on one side, fitted with wires for hanging the meat, is recommended for outside curing. The enclosure can be suspended on a clothes line by hooks mounted on the ends of the enclosure.

Since the weather is not always cooperative, curing can be done in the basement next to the furnace or near a window with a southern exposure. Cut lengths of wire, such as coat hangers, and fasten across the bottom of floor joists with staples.

To hang the meat for drying, take a paper clip, open it and form a hook. Insert one end through a piece of venison and hang it on the wire, keeping the pieces separated. Discoloration of the meat where it overlapped another piece while layered in the container may occur and is no cause for concern.

During the drying process, some blood may drip from the venison, so

it's a good idea to place newspapers on the floor below the meat.

As the meat dries, it will harden and become darker. It will also lose almost half of its original volume by the time it is completely cured.

After seven days of hanging, your jerky is ready to eat.

Storing and Eating

Jerky can be stored in a large jar or in a plastic bag. Be sure the jar is dry and capped securely. If you're using a plastic bag, make certain it's tied shut. Jerky will keep for an extended period because its low moisture content prevents the growth of micro-organisms that cause spoilage.

Before storing, cut off any fat missed during initial trimming, otherwise the jerky will have a tendency to get rancid. Any dried salt, pepper or spices remaining on the jerky can be wiped off with a dry cloth or paper towel.

Jerky is best eaten by simply breaking off a chunk and chewing on it. It won't take long for it to soften in your mouth and you'll also find that it complements your favorite refreshment. You might also want to try creamed venison jerky. Slice the jerky into paper-thin strips, chop finely and cream. Pour piping hot over biscuits or toast and serve. Once you try the tasty treat of venison jerky, you'll be back for more.

Whitetail Deaths on State Roads Still High

During the first six months of 1971, Game Commission employees picked up 9485 road-killed deer in Pennsylvania, compared with 8623 for the same period in 1970. Overall, deer mortality for the first half of this year is close to the 1970 figure. Known losses for January through June, excluding hunting, were 11,280, compared to 11,635 for the first half of 1970. Farmers killed 88 for crop damage this year, against 226 in 1970, and there were 946 deer deaths due to dogs compared with 1786 in the first six months of 1970. Most of the first-half losses to dogs last year were recorded between January 1 and March 31.



HUNTER SAFETY EDUCATION



Safety in Schools

By Wes Bower
C.I.A., Southcentral Division

“WOULD elementary schools be interested in hunter safety training in mid-winter?” This question, addressed to school administrators by Huntingdon County Game Protectors Dick Furry and Jack James, resulted in an enthusiastic yes.

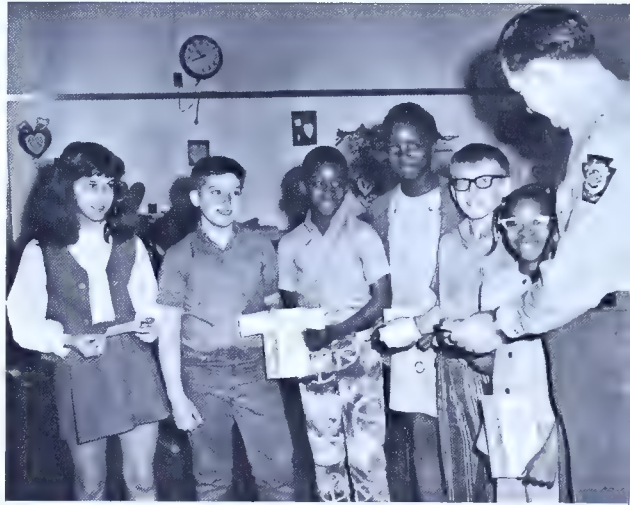
This enthusiasm did not stop at the administration level, but carried over to teachers and students as well. Within a few short days replies from the schools were 100 percent, with 17 Huntingdon County elementary schools desiring a program.

After a survey and discussion of the best grades in which to introduce the safety course, Officers Furry and James decided to concentrate their efforts on the fifth and sixth grades.

Then, extending their normal duty commitments, the Game Protectors went to work. Conducting as many as four classes a day, their appearance at the schools became almost as routine as those of the regular teachers. During February and early March these two Game Protectors jointly made 65 separate presentations to the schools, with Furry certifying 1422 and James another 381 for a total of 1803 students.

While unquestionably this was a difficult task, the workload was made considerably easier by the grade school teachers. Homeroom teachers took over the chore of the examination as well as the actual grading of the test papers.

By mid-March the two Game Protectors were finished and had an opportunity to sit back, review their pro-



DISTRICT GAME PROTECTOR Dick Furry presents achievement cards to elementary school students from Mt. Union who took hunter safety training in Huntingdon County.

grams, and reflect on the feasibility of continuing this type of safety training.

Their feelings? “Well,” says Game Protector Furry, “It’s been a lot of work and I realize that many of the boys and girls who completed the course will never have the opportunity to enjoy the sport of hunting. Nevertheless, they have been exposed to it and will better understand the basic fundamentals. Too, we included ‘gun home safety’ in the instructions, and this is important to the non-hunting segment. I feel certain these youths will never be a part of the anti-hunting sentiment group.”

Furry also reported that, due to the discussions on conservation, two schools have now incorporated the

conservation pledge as part of their daily procedure.

Game Protector Jack James echoed these remarks and further stated, "We know these youths are going to be better and safer hunters, and this in itself makes it worthwhile. The students' enthusiasm during the course was really gratifying. Besides, it's a self-satisfying experience to be able to travel to all parts of my district and

have these students speak up and tell you they had hunter safety.

It's a good bet that next winter "safety in the schools" will again be offered in Huntingdon County elementary schools. And if the enthusiasm of teachers and school administrators is any guide, Game Protectors Furry and James will have all the help they need to conduct the training courses.

It Just Happened!

"I don't know what happened, the gun just went off!" Such is the explanation on many hunting accident reports. One of the causes for the gun going off is a violation of safe gun handling rules, and also one of the leading infractions of the Pennsylvania Game Law.

A survey of prosecution reports for one year revealed that 449 persons were apprehended for possessing a loaded rifle or shotgun in a vehicle in motion on a highway. During the same period an additional 526 persons were apprehended for possessing a loaded rifle or shotgun in a vehicle standing on or along a highway. Hunting accidents for 1970 from this disregard of the Game Law verifies that they happen this way. "In getting out of a pickup truck, one boy handed a shotgun to another while reaching for his own shotgun. The gun discharged, hitting the victim in forehead at very close range." In another accident a report was presented by the District

Game Protector which stated, "Victim was sighting in on a groundhog while seated in his car. A second vehicle approached victim's car from rear. Just then the rifle was pulled into the car, and when the rifle was out of sight the observer heard a shot, and saw victim slump." On another occasion two boys returned to their car, and the gun was placed against the back seat. One hunter got in and picked up the gun by the stock behind the trigger, when the barrel dropped and the gun went off. The offender stated, "Some of the shot hit Charley, who was sitting in the front seat. I am not sure what happened, or whether my finger was on the trigger."

There were more than the usual number of hunting accidents involving loaded guns in vehicles during the past year. A stronger emphasis on this unsafe gun handling and violation of the Game Law during hunter safety training may help decrease accidents. They just don't happen.

Think Orange

Safety experts readily agree on one subject—it's advisable to wear fluorescent orange while hunting. Statistics from all states and provinces show that wearing of safety-colored clothing results in reduction of accidents. It is every hunter's responsibility to see and be seen. Set an example for your fellow sportsmen by wearing fluorescent orange when afield. It is the easiest color seen under poor light conditions.

Woodcock in Wine

(And Other Good Things to Eat)

By Les Rountree

IT'S GETTING to be that time of the year again when various kinds of furred and feathered bundles will be delivered to the camp or home chef for culinary treatment. Since a large number of Pennsylvania campers are hunters, and vice versa, it is within the scope of this department to discuss the cooking of wild game (thank goodness). I add the words in parentheses because I enjoy eating wild game and I like to prepare it. I have a special fondness for talking and writing about cooking, since I devoutly believe that only a fraction of the game harvested in the United States is treated with the care that it should receive. Wild game cooked at the campsite can be burnt to cinders or it can be the greatest meal you ever ate. The same is true in the home kitchen. No matter where you're cooking it, the biggest problem to overcome is a mental one. Many people, for one reason or another, think that game is going to be tough and "wild" flavored, so they are immediately conditioned not to like it. I have served game to unknowing guests and had them come back for seconds so often that I've become convinced practically everyone who is not a vegetarian enjoys wild fare . . . if it's prepared well.

Nearly all game is reasonably tender. There is a very good reason for this . . . that is, most birds and animals are cropped at an early age. Even if the hunter wasn't out there getting his share, the mortality rate of game birds would run above 80 percent in some species. The vast majority of doves harvested, for example, are birds of the year and couldn't possibly be tough. Since the dove season opens this month, let's consider them first.

Doves are ridiculously easy to clean.



UNFORTUNATELY, only a fraction of the wild game harvested in the U. S. is treated with the care it should receive. Such meat can be the greatest meal you ever ate.

You simply thrust your thumb under the tip of the breastbone and bend it back. Cut off the wing joint and peel off the skin. One dove breast presto! From this tough-to-hit little gray bird comes some of the most delectable meat man ever sampled. It is almost impossible to ruin a dove breast unless you fry it to a black crisp. In fact, a dove breast should never be



A SHARP, HEAVY knife and a flat piece of hardwood take all the problems out of cutting up a pair of ringnecks after a good day afield.

fried in any kind of grease other than butter.

My favorite method of preparing dove breasts is to brown them *lightly* in butter and then pour a half-inch of white burgundy wine in the skillet bottom. Put a lid on, turn the heat down to simmer, and go tell a lie or two about how you hit six in a row. Come back 45 minutes later and eat, adding a little salt and pepper, if you like. Of course, you must have a heavy cast iron pan for this kind of treatment . . . but I can't imagine any outdoor household—and particularly any camping family—that doesn't have one.

Another easy way to cook dove breasts is to add them to spaghetti sauce. If you like spaghetti and meatballs and the taste of things Italiano, you'll go wild about dove breasts fixed this way. With many wild creatures the taste is so delicate that overpowering condiments like oregano and red pepper which usually are found in spaghetti sauces kill it completely. Not so with doves. The good taste is there and so is the tomato flavor that most Americans like.

Dove breasts can be broiled, too,

and are very good fixed that way, but the one who cleans them must remember to leave the breast skin on or else they must be covered with bacon strips to avoid overcooking the delicate flesh. Currant jelly is especially good with dove breasts.

Woodcock can be treated in much the same manner as dove breasts. These little birds have an even more positive flavor. I happen to think they are delicious but they can be improved with the addition of a bay leaf or two when pan simmered in butter and dry wine. Incidentally, most wild game dishes are enhanced by a bay leaf. If you're not sure if you'd like the taste of bay, rub a leaf between your fingers and smell. If the aroma is pleasant to you chances are you'd like the taste.

The grouse hunter occasionally bags a woodcock and if you find yourself faced with one woodcock and one grouse you can combine the two. Stuff the woodcock with an onion just the right size to fit inside the body cavity and brown the bird in butter. Then stuff the woodcock inside the grouse, rub the bigger bird with butter and lemon juice, place a bay leaf on the breast and wrap the whole business up in heavy cooking foil. Place in a moderate (350 degrees) oven for 1¼ to 1½ hours and serve. The two tastes blended together create a gastronomic experience you'll never forget.

Grouse With Sauerkraut

Heard a crazy one not too long ago for a grouse stuffing—sauerkraut! Can't remember who told me about it but they said it was great. I plan to try that this fall. Grouse are just a mite dry and they need a bit of moisture to improve the texture. The sauerkraut idea may just work. Of course, grouse can be cooked in butter and wine like dove breasts . . . it just takes a bit longer to cook them thoroughly (about one hour). The alcohol (in case you're a non-drinker) is completely cooked out and all that remains is the delicate hint of wine flavor.

Cut up pieces of rabbit and squirrel can be excellent pan fried just as you would prepare chicken. With older, slightly tougher individuals, a bit of parboiling is all that's necessary to tenderize. Young rabbits and squirrels can be split in half and broiled in less than half an hour. In the case of a badly shot-up rabbit, the spaghetti sauce treatment works here too. Cut the meat away from the bones and drop into the bubbling sauce.

My wife fixes our ringnecks with a strip of smoked bacon over the breast and the results are great. We've experimented with several types of dressings and here are a couple of our favorites:

Mushroom Stuffing

Brown $\frac{1}{2}$ cup chopped mushrooms and 1 teaspoon diced onion in 1 tablespoon butter or margarine. Add 2 tablespoons chopped parsley, $\frac{1}{2}$ teaspoon salt, $\frac{1}{4}$ teaspoon celery salt and a dash of pepper; mix well. Add $1\frac{1}{2}$ cups of toast crumbs and toss with $\frac{1}{2}$ cup of chicken broth.

Celery Dressing

Brown 1 tablespoon chopped onion in 1 tablespoon butter or margarine. Add $\frac{1}{2}$ cup chopped celery, $\frac{1}{4}$ teaspoon salt, dash of pepper, sage and poultry seasoning. Add $1\frac{1}{2}$ cups toasted bread cubes and $\frac{1}{2}$ cup chicken bouillon.

Each of these recipes will make two cups of stuffing which will fill two pheasants. My wife insists that game stuffings be extra moist to help tenderize the birds.

Borrowing from a duck recipe that we saw in *GAME NEWS* a fall or two ago, we have also tried Pheasant Italienne. In case you missed it, it goes like this:

Cut your pheasants into serving pieces, sprinkle with flour, salt and pepper and saute very lightly in butter. Place the pieces of pheasant in a heavy skillet or Dutch oven and saute one chopped onion and a minced garlic clove in the remaining butter. Add these vegetables to the pheasant along with an 8-ounce can of tomato sauce, $\frac{1}{2}$ cup beer and $\frac{1}{2}$ teaspoon oregano. Cover and simmer until meat is done

GAME IS GOOD EATING AT HOME, but even more satisfying when prepared during a hunting trip in the fall.



—about one hour. Serve over buttered noodles and sprinkle with Parmesan cheese and chopped parsley.

I can't write with a great deal of authority about cooking wild turkeys since I haven't had the opportunity to cook very many of them. The hunters who shoot them more frequently than I do say there is nothing difficult about it. You simply treat them the same way you would a domestic bird except that you must baste more frequently since the natural fat is not as heavy as on the tame variety. The few that I have eaten have been excellent—if anything, even more flavorful than the supermarket kind. Those who have had the chance to compare are convinced that spring gobblers are even better than those taken during the fall. The gobblers do weigh more during the spring and the extra fat just may make a difference. Yeah . . . that's so, the gobblers weigh more during their breeding season than they do in the fall. Seems strange but it's true.

Wild Ducks Better

Wild ducks and geese are so much better than tame ones that there is no comparison. Waterfowl particularly suffers from over cooking and when the meat goes beyond the pink stage it commences to get tough. The foil roasting technique is made to order for ducks. It seals all the moisture in and allows the meat to cook quickly without becoming leathery. After you rub the bird with butter or margarine, brown it on all sides by broiling, then place it in the foil with a cut-up onion and a bay leaf and sprinkle it with salt, pepper and marjoram. Here again, I like the mushroom stuffing. The drippings from the foil pouch make outstanding gravy . . . or save it for stock in making a wild game stew! Cooking time is about 1½ hours in a 350-degree oven. A marvelously simple and very good stuffing for both ducks and geese is to prepare a box of Uncle Ben's Seasoned Long Grain & Wild Rice according to directions and fill the bird with the resulting mixture

Venison is really fine meat! Even a very old deer can be good if he's had a reasonably good diet. The way to tell if the diet has agreed with the animal is to look for body fat. This is the sure way to spot good beef and it works with venison too. I'll admit it's difficult to select your animal with precision before you shoot him but how he appears as you dress him out can make a difference when you decide how to prepare the various cuts. A fat deer needs less cooking time.

The chops are the very best part of the deer. This is the backstrap or the strips of tenderloin that lie along the backbone. To grind this meat into hamburger is a crime of great magnitude. This is the filet mignon of venison and should be treated as such. Chops can be pan fried or broiled, with the latter method much preferred. Eight minutes on a side is usually enough under a hot broiler if you cut the chops about one inch thick. If you cut them any thinner than this they tend to cook too fast and become rubbery. So would the best beef. You can cut them thicker, up to an inch and a half, and this means about five minutes more cooking time. The taste is not unlike lamb, only remember—*don't overcook!* Chops should be pink in the center. Apple jelly is a nice addition when serving.

Shoulder and leg roasts should be done by the foil method, since this retains more moisture. The bay leaf is required here and salt and pepper and a dash of thyme can be added, along with some onion and margarine, before you seal up the pouch. Roast in an oven set at 350 degrees and allow about 25 minutes per pound. Slice thinly with a very sharp knife and serve on a heated platter garnished with fresh water cress or parsley.

Fresh venison liver is seldom tasted by deer hunters. They either forget (conveniently or on purpose) to bring it back to camp or somebody told them it was too strong to be edible. For shame! Venison liver is tender and very tasty. It should be soaked in salt

water overnight and then skinned. There is a thin membrane around the liver and it will peel off rather easily after being soaked. Slice the liver in half-inch strips and fry *quickly* with onions and mushrooms in half and half butter and margarine. Cook until the liver slices can be cut easily with a fork and, I promise, you'll never throw liver away again. Deer heart can be handled in exactly the same way.

The editor of GAME NEWS doesn't permit me to write more than one column a year about cooking,* so I'd better try to wind this up. I know I haven't scratched the surface on cooking game but I promise I'll sneak in a quick recipe everytime the editor isn't looking. In the meantime if you have a favorite game recipe that you'd like to share with me, please send it to the GAME NEWS office. I collect



THERE ARE FEW more pleasing sights to a hungry hunter than this.

them and I'm always happy to try new ones.

*Oh, I dunno. We could probably use a couple a year, if the readers want 'em. What do you think out there?—Ed.

Regulated Shooting Grounds Season Opens September 1

The hunting season for regulated shooting grounds in Pennsylvania will begin one-half hour before sunrise on Wednesday, September 1, and continue until sunset on March 31, 1972, Sundays excepted. Regulated shooting grounds are operated under permits issued by the Pennsylvania Game Commission, and are either private or commercial in nature.

During the September 1-March 31 season, hunters may take domestically produced pheasants, bobwhite quail of the subspecies approved by the Commission, chukar partridges, and properly marked domestically produced mallard ducks (hind toe removed from right foot) released on all regulated shooting grounds, private and commercial. These species may be taken on such regulated areas without regard to sex or daily or season bag limits. Such species shot on regulated shooting grounds must be tagged before removal from the premises.

Wild mallards and other species of game not liberated may be taken only during regular seasons for the species and within regular daily and season bag limits by holders of regular resident, nonresident or alien hunting licenses.

All persons hunting on regulated shooting grounds are required to possess a current, valid hunting license. A three-day nonresident license is available for hunting on regulated shooting grounds only. Holders of this type of license may take only liberated game.

Like Familiar Things

Eagles have a permanent way of doing things. They mate for life, and once a territory has been staked out, return to use it as a home base year after year.

SKILL TO SCORE

By Keith C. Schuyler



IN THE EXTENDED archery season, which falls in mid-winter when snow is usually on the ground, shots tend to be longer and stalking more difficult, as visibility is so much better, giving a significant advantage to a quarry which is noted for its keen eyes.

AS WE STAND on the threshold of the third decade for special bow hunting seasons for deer in Pennsylvania, we have 20 years in total experience behind us. Of course, there will be newcomers to the sport this year, and there are those of us who hunted many years before the first special season was inaugurated in 1951. But for each of us there are still questions as to what really determines success with the bow and arrow on big game—particularly the white-tailed deer.

If there are those who read this column monthly (aside from my long-suffering editor), they are certainly conscious of the almost monotonous advice to practice regularly with the bow. Further, there will never be a lessening on promotion of competitive shooting as a way to improve one's skill. Nevertheless, in an individual's experience over the years, the question certainly must arise as to what proportions of skill versus luck are involved in this pursuit of the white-tailed deer with the bow and arrow.

Anyone who has been around for awhile is aware of the first-time tyro bow hunter who goes out and bags a deer in defiance of every rule of archery skill and woodsmanship. But before we go any further, such instances must be discounted in the overall picture. These are the exceptions which prove the rules.

Despite the casual waving aside of these "exceptions," there are still serious questions which must be answered. How do some archers score consistently despite the fact they shoot so poorly they are ashamed to risk their ability on the competitive target line? Why is it that some archers who do extremely well on targets have yet to score on deer? There are no single

answers to these questions. However, in seeking answers we are certain to uncover some of the factors which contribute to either success or failure in the hunting field.

Luck is probably the least dependable factor on the total scene. Good luck and bad luck in hunting are somewhat akin to the controlling factor in whether we succeed or fail in life. After discounting those factors which are beyond our control, such as illness, non-contributory mishaps, and so-called "acts of God," we stand judged by our own abilities, or lack of them.

"Luck" is defined as a force that brings good fortune or adversity; the events or circumstances that operate for or against an individual. Luck is simply a roll of the dice. In attempting, in our search for answers, to eliminate this lucky hunter, we must first know whether or not he hunted previously with the gun. If so, his luck may be confined to his shot with the bow. Previous training in the woods did much toward making the shot possible even though the shot itself was almost entirely luck. This fellow is among those bow hunters who comprise the group who are woodswise but unskilled with the bow. He can, in effect, be lumped with the group that is made up of excellent archers who are unskilled in hunting.

By far the largest group is that made up of those whose formal archery training has been confined to shooting at straw bales in the back yard. Most of these are gunners in turn. Whether successful previously with the gun is not necessarily significant, for each previous hunting experience with the gun has helped to

correct mistakes that are too often charged to luck. It is total experience that counts—not just one fluke or happenstance. Although it is true that some never learn, ability to compete with wild creatures in their environment is predicated upon this total experience, plus teaching. The boy or girl who grew up with a dad or a friend who is a hunter certainly has the edge over one from a metropolitan area. He has a chance to learn both the good and the bad from his hunting companion while developing his own abilities.

Nothing Insures Success

Despite prior background and training, nothing insures success with the bow and arrow. However, it's obvious that the chance to succeed is enhanced. The ability to get close to game, either by stalking or by standing, is a tremendous advantage in bow hunting. At 30 feet, even an inexperienced archer can come close to a very small target. With a killing area approximately eight inches in diameter on the average deer's chest, it is not too difficult to score well at that distance. And many successful shots are made at no more than 10 yards by the good hunter.

On the other hand, even the expert archer who has had considerable experience with the gun will have trouble with close shots. Most indoor target shooting is done at 20 yards, and outside targets are usually set at much greater distances. It is true that field courses provide a good variety of shots, many of them under 20 yards, but most shooting is at targets beyond this distance. Most formal outdoor target rounds are at 30 yards and beyond.

For both, there is the problem of judging distance. The instinctive archer has fewer problems since he is accustomed to holding at what he believes to be dead-on. Albeit unconsciously, this frequently involves, depending on what part of the face is used for an anchor, making consider-



able allowance to compensate for the angle of error between the eye and the arrow when on the bow rest.

A good example of this can be seen when the instinctive archer steps up to the target line. His first shot, released in the manner to which he has become accustomed, often hits the target dead-center at the closer distances. His following arrows are often erratic simply because he is trying to remember how he shot the first one. It was when he released his first arrow that he did so without any thought other than to hit the bullseye.

The target shooter has been conditioned to make allowances for various distances. He is much more apt to give considerable thought, however brief a time it might seem to take, before he releases his arrow. This

would seem to be the proper way to shoot. However, the fellow who has been conditioned to make a more or less mechanical mental approach to his shot is actually at a disadvantage.

Many bow hunters are tempted to make shots beyond their abilities. The instinctive archer may try simply because the entire deer is available as a target, and he has the reasonable assumption that it will stand for the shot. Yet, he is now giving up the shooting advantage that he has developed, by reaching too far.

The target archer may actually do better at the longer distances since he is more accustomed to such shooting. But the unknown-distance factor works against his chance to succeed.

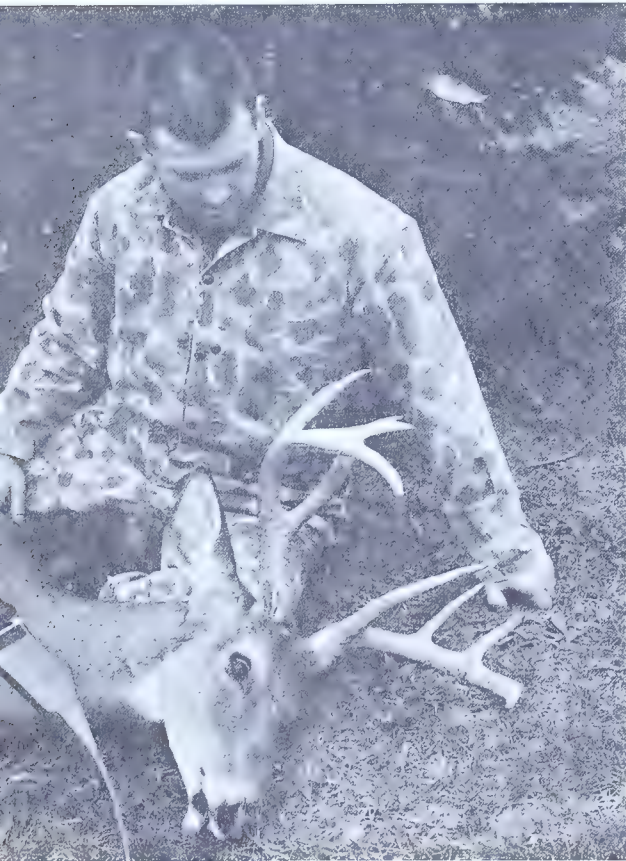
If each of these hunters would use more skill in attempting to approach closer for a more likely score, they would do both the quarry and themselves a favor.

In the preceeding, the assumption has been that the target is available and a reasonable attempt is in order. But let's assume that each is more interested in getting close enough for the probability of a clean kill. It would seem that such a procedure would insure success. The record reads otherwise. It can be tough going even on close shots.

Keep Range Short

Attempting long shots is simply an excuse for inability to approach to the proper range. This range, for the average archer-bow hunter, is still seldom more than 20 yards. Even at distances up to only 60 feet, there are many imponderables which can turn almost sure success into frustration.

As a case in point, my own failure last year on a "sure shot" was the result of poor planning. Luck had nothing to do with it. Despite the fact that I had not seen a deer at this particular stand, there was evidence in the snow to indicate that deer would come out of the pines to feed. As a big deer approached, there was plenty of time to prepare for a release.



AFTER DON DVOROZNAK added this 8-point Pennsylvania buck to a Tennessee bear and Colorado elk taken in the same year with a bow, would his efforts be called luck or skill?



EVEN THE QUEEN CAN miss—as proved by Anne Guarino's loss of shirttail. Anne was 1970 Queen of Bowhunters Festival.

Crunching crust pinpointed the moving animal's position. My bow was at half draw when the deer stepped forward toward an opening that would provide an excellent opportunity. Even as my own bow came to full draw, the ugly thought jumped into my mind. "How can anything at all go wrong now?"

Everything was perfect—except the release!

A new pair of gloves to combat the considerable cold of January was actually too new and too soft. The long hold at partial, then full draw, had imbedded the string into the soft leather. At the release, the string hung up for a fraction of a second and didn't get away cleanly. All my effort brought was a handful of hair as the broadhead creased the deer's chest without drawing blood. Subsequent trailing for over 200 yards failed to show a drop of blood. I was only thankful that I didn't make a poor hit on the animal through my own carelessness.

There are many such things to

guard against to prevent fouling up such opportunities.

Air movements can reveal your presence if you have not properly planned your stand. A small twig can deflect an arrow to cause a miss or a bad hit if you have not made certain that you have clear areas in which to release an arrow if the quarry comes from any of several directions. If you are using a tree stand or a high rock from which to shoot, you must have had practice shooting from such angles if you expect to score. Loose clothing must be avoided to prevent catching the string. The use of an arm guard or tape or clothes which cannot bunch up or sag must be considered. Arrow nocks must fit the string properly. If they are too loose, a fumble can cause loss of an opportunity which may have taken hours of waiting or stalking to set up. The nocking point on the string should be built up to hold the arrow nock snugly, or the arrow nock should be heated in warm water so that it can be compressed enough on the end to cling to the string suffi-

ciently to hold the weight of the arrow when the bow is held horizontal.

The bow should be one with which the hunter has shown proficiency. Too heavy a bow can cause a bad miss if it is unfamiliar. Too light a bow can be equally embarrassing. Arrows should be spined properly for the bow being used, so that they will fly as straight as possible.

Extra Arrows

Additional arrows should be available, either on a bow quiver or stuck lightly into the ground or snow where they can be easily reached in the event the first arrow is unsuccessful or an additional shot is needed.

There are archers who take all such precautions and who are always ready for the shot. Yet some of the best hunters have yet to score or have a low score for their total efforts. Some of these are trophy hunters who will not shoot at an antlerless deer. Some are fathers who refuse shots, hoping that the deer they pass up will be taken by their offspring. And there are some who have done everything exactly right, but another hunter, a bird, a car, any one of a number of things fouls up their shooting.

How many have had to leave a stand to meet an appointment or to be to work on time, only to expose themselves to a deer that might have presented a shot within minutes? How many have walked into a good stand, only to frighten their quarry because their timing was a bit off? How many have frightened deer away with shiny bows or bright clothing without ever knowing of the opportunity they missed?

Many Factors Important

These and many other factors have an effect in hunting deer with a bow. Failures can easily be blamed upon *bad* luck although we seldom hear anyone admit to scoring because of *good* luck. This impropotion in finding reasons for failure or success can be attributed to the fact that very little

luck, if any, is truly involved.

We are hunting wild creatures. Although there is a certain predictability in their unpredictability, they are creatures of necessity as well as habit. Their instincts may tell them that a storm is approaching and that they should feed early, so they upset the human timetable. They may need something else in their diet than what they have been feeding on, so they change their movement patterns for a day or two. The deer we seek may be older, and more experienced, with sharper instincts that challenge a standard approach which worked many times before.

If you will take the time to listen to an honest archer who has scored fairly consistently on the white-tailed deer, you may have a long listen. There is no successful bow hunter who does not have a catalog of misses, mistakes, and misadventures for which he now has logical answers. He will tell you, and he will be telling the truth, that very little luck is involved in taking a whitetail with the bow. It is true that some scores come much more easily than others, but the successful hunter for the most part makes his own luck.

Accidental Actions

Even so, the accidental or the intentional actions of the deer itself may wash out an effort that seemed to insure success—at least for a good shot at the animal. These happenings are more likely to occur for the hunter who has had long experience with the gun but is new upon the bow hunting scene.

It has always been a personal feeling that, if I can get just one 20-yard shot during an entire season, I have had as much chance as I deserve. If I blow that one chance, I am content with the privilege of trying again in another year.

Possibly just that privilege of being around to try again involves about the only luck in hunting with the bow and arrow. It takes skill to score.



JOE SKURSKY AND DON LEWIS prepare for a session of chronographing 22-250s. Note tagged loads. Rifle is M800V Mossberg with 6-18x Tasco scope.

Rebirth of a Wildcat—The 22-250

By Don Lewis

Photos by Helen Lewis

"THIS IS getting hard to believe," Joe Skursky said as he snapped off the power switch on the chronograph. "We've fired some close readings during the last few days, but getting a maximum spread of less than 20 feet per second for five shots proves this chronograph is really consistent and accurate."

"It also proves that I did a bang-up job loading the test shells," cut in my son, Darrel, good naturedly. "I'm gonna sign the data sheet like John Hancock signed the Constitution."

"Don't overlook the fact that I hooked up the test screens and checked out the chronograph before each shot. That proves something," Joe answered.

"Hold it," I cracked. "You two guys stop trying to prove who is best. I'm the fellow doing the shooting, and this Avtron chronograph is one of the best money can buy, so stop the nonsense, especially since I'm paying you over-time for your services."

This last remark brought several un-

complimentary squawks from the two young fellows as we hustled to get things set up for another firing. In attempting to get velocity information on various loads and powder charges for the 22-250, I was using the new Avtron K233 chronograph for all the instrumental velocity readings. Joe's remark about the accuracy and consistency of this outfit was certainly true. I'm no stranger to chronographs, which may be why I found it a little hard to believe that shot after shot would register properly. Past experiences with other chronographs had indicated that getting accurate readings with every shot was just not likely. Most of the problems occur in the hook-up or in circuit failures. With the K233, I had no failures in all the tests fired and only one shot that gave an erratic reading. I suppose this does prove that our test rounds were carefully loaded and the Avtron chronograph is highly dependable.

Readers who have followed this

column through the years know that I lean heavily toward the varmint calibers and rifles. Although I have shot and tested virtually every known caliber, I must admit that at heart I'm a varmint specialist. The fast, flat-shooting smallbore centerfires have a special appeal to me and rank high on my list of favorites, so it was with real zest and enthusiasm that I began testing the 22-250 caliber and the rifles that are now commercially available for this fine cartridge.

Despite all the testing and group shooting I've done for past articles, I probably fired three to four times as much for this one. I'm not implying that it was too much work, for I really enjoyed every moment of it, and I shot far more than was necessary, but when I found how accurate today's 22-250 rifle is, I just couldn't seem to stop. This was the way it went, group after group, always trying to cut one a little smaller than the previous one fired. It took over two weeks, using every available moment, but I discovered that the numerous makes and models now available for the 22-250 will all shoot groups of one inch or less at 100 yards. That puts all these rifles in the varmint category for accuracy.

Wotkyns and Gebby

Long before the varmint hunter could walk into the local gun store and ponder over a dozen or so makes and models for his type of hunting, the 22-250 was being made by gunsmiths on a custom basis. I know most fellows think of the famous 220 Swift as being the granddaddy of the high velocity 22 centerfires, but the truth is the 22-250 was the forerunner or prototype of the 220 Swift. As far as I can determine, the original designer was Grosvenor Wotkyns who simply necked down the popular 250-3000 Savage to the 224 caliber, retaining the original 26½ degree shoulder. From its inception, it was a smash hit with the benchrest shooters, and there's no way of knowing how many fellows got



into the act with their version of this highly accurate cartridge. Jerry Gebby, a Dayton, Ohio, gunsmith, called his version the "Varminster" (and copyrighted the name), and some old-time shooters still refer to the 22-250 by this name.

Although most 22-250s were made with .224" groove diameter, there were considerable variances in chamber dimensions. In attempting to improve accuracy and increase velocity, shoulder angles ran from 26½ degrees to 30 degrees. However, in 1965, Remington standardized the cartridge with a shoulder angle of 28 degrees. Some of the data on this cartridge prior to 1965 was taken from chambers that are now considered oversized, and it could be hazardous to use this data with modern factory-chambered 22-250 rifles.

Along with different neck angles, case capacity will also vary if 22-250 cases are formed from comparatively large shells such as the 270 or 30-06. The reloader who intends to make his own cases should use caution in working up loads, since the reduced capacity will raise pressures unless powder charges are lessened. I see no reason to make cases anymore since commercial 22-250 cases are readily available.

During the last five years, I've fired possibly every make and model of rifle chambered for the 22-250 cartridge, but I decided since so many firms now offer it in the varmint category that I would use only heavy-barreled models for this article. The rifles used were: Browning, Dumoulin, Mossberg, Remington, Ruger No. 1, Ruger 77, and the Sako Forester. My Winchester Model 70 is the 225 caliber, and Weatherby does not make a factory

production heavy barrel. I have shot the Model 70 in the 22-250 caliber with good results, and if Weatherby's Mark V 22-250 shoots as well as Helen's 224 Varmintmaster, have no fears in getting one.

In setting up for this testing, I tried to standardize my operations to cut down on lost time and eliminate confusion. On all the rifles except the Sako, which does not come with target bases, I used the Tasco 6-18X scope for all chronographing. This scope has a sliding rear mount ring which adjusts quickly to all base spacings. On my chronograph range, the first screen is 10 feet from the muzzle, and using the Tasco on 6X kept away from over-magnification.

For the benchrest group shooting I used the Redfield "3200" 20X in conjunction with the Bausch and Lomb Balscope Zoom 60 spotting scope. This made a fine combination. I'm more impressed with the solidly mounted "3200" scope each time I use it. On sliding target scopes, I many times forget to pull the scope back for proper eye relief after each shot. The "3200"

stays secure and never moves a thousandth.

I found the wide range of magnification on the B & L Zoom scope to be very helpful, especially at night. During the daytime hours, I stayed around 24X, but I could increase this another 10 to 15 power under the lights without sacrificing image definition.

I chose the Browning Safari Grade for my first test rifle. This is a very nice looking outfit. It has a 24-inch barrel with a double step down in barrel taper from the receiver that tapers out to slightly more than $\frac{3}{8}$ " at the muzzle. The bolt is chromed and the floorplate is hand engraved with gold filling. I can't actually call this model a true heavy barrel, but would be more inclined to put it in the lightweight target barrel class. It's a nice rifle for field carrying.

For the first chronograph test, I used a light load of 36 grains of 4350 with the 50-grain Sierra spitzer bullet. During the five shots, there was a spread of only 60 fps with an average of 3168 fps instrumental velocity at about 15 feet from the muzzle. I can't

RIFLES USED IN TESTING WERE Browning, 20X Redfield; Mossberg, 6-18x Tasco; Remington, 10X Unertl; Ruger No. 1, 12X Redfield; Sako, Weaver V9, and Ruger M77, 10X Unertl.





AVTRON K233 CHRONOGRAPH performed flawlessly in test shooting. Left, closeup of a screen. When bullet pierces first one, it starts counter; breaking second one stops it.

say the low velocity had an edge in the accuracy column. I stayed around an inch with five groups fired, and had one that measured $\frac{3}{4}$ inch. Later, I jumped to a maximum load of 40 grains of 4350 with the 53-grain Hornady match bullet and had a velocity of 3625 fps.

Dumoulin Rifle

The Dumoulin Custom is a Belgian-made rifle that is not yet readily available, but it will be next year through the JBL Arms Company of Dover, Pa. Since this was a prototype, I didn't do too much testing with it. The rifle is well designed. A thin, thumb-hole, high-comb stock with a two-inch-wide flat beavertail forearm and a 24-inch barrel tapering to nearly $\frac{7}{8}$ inch at the muzzle should make this an ideal outfit for both the varmint hunter and casual benchrest shooter. My pilot model had a Sako action with a Canjar trigger. It will be offered with the FN Mauser action and another type of optional set trigger.

I was in for quite a surprise when my test model 800 V Mossberg arrived. Of all the rifles tested, the 800V is the heaviest, hitting around 9 $\frac{1}{2}$ pounds without scope. Mossberg refers to its stock as the Marksman, and the rifle has a heavy 24-inch barrel that is a full $\frac{7}{8}$ inch at the muzzle. I found the trigger to be a little heavy, but not enough to interfere with some nice group shooting. I do like the

square forearm, since it helps keep the rifle from canting.

I got inch groups with 36 grains of 4895 behind the 55-grain Sierra semi-point bullet. It averaged 3691 fps for 10 shots. This is moving a 55-grain slug right along, and with inch accuracy at 100 yards, this load should be fine for varmints, especially if there is any wind. I've always found Mossberg rifles to have better than average accuracy, and I got sure proof when I fired consistent tight groups with this one. I would highly recommend it to any chuck hunter and it would really be appreciated by the fellow who likes a little weight in his outfit.

I'm not going to dwell too much on the Remington M700 heavy barrel as I've mentioned it often in earlier columns. I'm certain I have fired this model more than any other in production. It's about everything a varmint hunter could want—a fine, adjustable trigger, a well-balanced outfit, and accuracy that has to please even the most demanding shooter.

I wanted to try some loads with 4198 powder, although I'm not going to suggest this powder as the most suitable one for the 22-250. I feel it's too critical when maximum loads are used. I fired a half dozen weights of powder, working up to a maximum 32-grain charge pushing a 45-grain Sierra bullet to see if I would experience any case stickage or signs of pressure. There was no evidence of

22-250 Velocity and Accuracy Tests

Chronograph—Avtron K233

Rifle	Load	Bullet	Ave. Instrumental Velocity at 15 Ft.	Group Size		
				# 1	# 2	# 3
Browning Safari	31/RL 7 (Max.)	45 gr. Sierra Spitzer	3871	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
	40/4350 (Max.)	53 gr. Hornady Match HP	3625	1	$\frac{7}{8}$	1 $\frac{1}{8}$
	36/4320	53 gr. Hornady Match HP	3682	1	$\frac{3}{4}$	$\frac{3}{4}$
Mossberg M800V	36/4350	50 gr. Sierra Spitzer	3158	1	$\frac{3}{4}$	1
	35/4320	50 gr. Sierra Spitzer	3551	1 $\frac{1}{8}$	1 $\frac{1}{8}$	1
	36/4895	55 gr. Sierra Semi-spitzer	3691	1 $\frac{1}{4}$	1	1 $\frac{1}{4}$
Remington M700	36/4895	45 gr. Sierra Spitzer	3836	1	1 $\frac{1}{8}$	1 $\frac{1}{8}$
	31 $\frac{1}{2}$ /3031	55 gr. Speer Semi-spitzer	3440	$\frac{3}{4}$	1	1
	35 $\frac{1}{2}$ /4895	55 gr. Sierra Spitzer	3633	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
	33 $\frac{1}{2}$ /3031	55 gr. Speer Semi-spitzer	3685	1	1	1 $\frac{1}{8}$
	36/4320	63 gr. Sierra Spitzer	3595	1 $\frac{1}{8}$	1	1 $\frac{1}{4}$
Ruger No. 1	37 $\frac{1}{2}$ /4895	50 gr. Sierra Spitzer	3907	1	1 $\frac{1}{4}$	$\frac{7}{8}$
	35 $\frac{1}{2}$ /4064	53 gr. Hornady Match HP	3754	$\frac{7}{8}$	7/16	$\frac{3}{4}$
	39/4350	63 gr. Sierra Spitzer	3451	1 $\frac{1}{2}$	1 $\frac{1}{4}$	1 $\frac{1}{4}$
Ruger M77	34 $\frac{1}{2}$ /4895	53 gr. Hornady Match HP	3577	1	$\frac{3}{4}$	1 $\frac{1}{4}$
	35 $\frac{1}{2}$ /4064	53 gr. Hornady Match HP	3769	$\frac{7}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
	24/4198	63 gr. Sierra Spitzer	2949	1 $\frac{1}{8}$	1	1
Sako Forester	32/4198 (Max.)	45 gr. Sierra Spitzer	4023	1 $\frac{1}{8}$	1 $\frac{1}{8}$	—
	29 $\frac{1}{2}$ /RL 7	55 gr. Sierra Semi-spitzer	3590	1	1	$\frac{7}{8}$
	37/4320 (Max.)	55 gr. Speer Semi-spitzer	3677	$\frac{3}{4}$	$\frac{7}{8}$	1

NOTES: Firing was done during the June 25-July 12 period, with temperatures over 80 degrees. All rifles had heavy barrels, 24 inches in length. Norma and Remington cases were used, with Winchester 8 $\frac{1}{2}$ primers. Velocities shown are in feet per second and are the averages of 5 shots. Groups are of 5 shots.

either in the M700. I fired a string of five through the screens and came up with a 65 fps spread in the loads and a mean velocity of 4023. This I consider too hot.

My first thoughts expressed to Darrel and Joe were that it would take a good bit of luck to keep this load in a three-inch circle. My belief was as false as a seven-dollar bill; it gave a group of just over an inch from the Remington 700. Just out of curiosity I shot five from the Sako Forester using a 4-12X Redfield scope and came up with almost an exact duplicate of my first group. I didn't fire this load anymore since I didn't want to subject these two rifles to such hot loads.

As I've explained in past columns, I don't get emotionally involved over any caliber or rifle. But, I'm human. Lately, I've discovered that I do have some rather strong feelings about several rifles and calibers including my M64 Anschütz 22 squirrel rifle, the 240 Weatherby, and the No. 1 Ruger heavy barrel rifle. The No. 1 is darn close what I think a chuck rifle should be. I like the superb workmanship, the under-lever, falling-block action, and the single shot, and on top of all that, it shoots like blue blazes.

Best Group

I fired my best group with this rifle, 7/16", using 35½ grains of 4064 behind the 53-grain Hornady match bullet. This would make a good hunting load too, since it gave an instrumental velocity of 3754 fps. This is fast but I am not going to call it hot. I think barrel life would hold up for years with this load. I decided to try this outfit under actual hunting conditions. I removed the "3200" 20X and installed a "3200" 12X. My hunting luck was not too good due to field conditions, but I shot several groups that went far below an inch from the benchrest. I feel that any chuck hunter who likes the idea of the single shot would do well to give a lot of thought to the No. 1 Ruger heavy barrel.

My next test was with another

Ruger, Model 77 bolt action. Like the No. 1, the 77 has a 24-inch barrel that tapers to ¾ inch. It's heavy enough for good holding, but not too heavy for field carrying. I worked up a load of 37¼ grains of 4895 with the 50-grain Sierra spitzer and the Avtron outfit gave me an average reading of 3907 fps. I couldn't get the 77 below 1¼" with this load. This load is too hot for me, but it would add a few yards under normal conditions.

My last test was with the Sako. It, too, is a well-designed rifle having a lot of class. Barrel length is 24 inches tapering to ¾ inch at the muzzle. As with the Mossberg, I found it to have a fine flat forearm for easy holding. Along with the hot load of 4198, I tried 36 grains of 4895 behind the 55-grain Sierra. Immediately after chronographing I made a note to use this load on future chuck hunts and when just shooting a lot from the bench. The average instrumental velocity was 3613 fps, which makes me believe that 5000 to 6000 rounds could be fired through any one of the test rifles without undue barrel damage. My only objection to this rifle is that it doesn't come drilled and tapped for target type bases.

Well, space will not permit me to go into great detail on all the things that transpired during all of this testing and shooting. I could write a full article on each rifle if space permitted. Most of these rifles are built along similar lines, but there are differences that would make one rifle more suitable for some hunters than any of the others tested. I suggest handling each one before coming to a conclusion.

One thing I can assure you is that each rifle tested turned in a star performance. This is a feather in the cap for all the gun manufacturers who are striving to put out a better product.

I ended the tests realizing one important thing: the 22-250 may have been a wildcat for 30-odd years, but it was a great day for varmint hunters when the gun world witnessed the rebirth of the unbeatable 22-250. . . .

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS *Executive Director*

ROBERT S. LICHTENBERGER *Deputy Executive Director*

EDWARD T. DURKIN *Comptroller*

Division of Administration

DANIEL H. FACKLER *Chief*

Division of Research

DALE E. SHEFFER *Chief*

Division of Land Management

HARVEY A. ROBERTS *Chief*

Division of Law Enforcement

JAMES A. BROWN *Chief*

Division of Minerals

JOHN B. SEDAM *Chief*

Division of Propagation

RALPH E. BRITT *Chief*

Division of Information and Education

ROY W. TREXLER *Chief*

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188

Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.

SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.

Phone: A.C. 412 238-9523 or 238-9524

Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641

Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.

SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.

Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.

Phone: A.C. 717 675-1143 or 675-1144

Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.

Phone: A.C. 215 926-6071

Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473. Phone: A.C. 215 287-8151

WESTERN GAME FARM—G. Russell Enlow, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212

LOYALSOCK GAME FARM—Jack N. Anderson, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500

STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223. Phone: A.C. 814 275-2515

STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

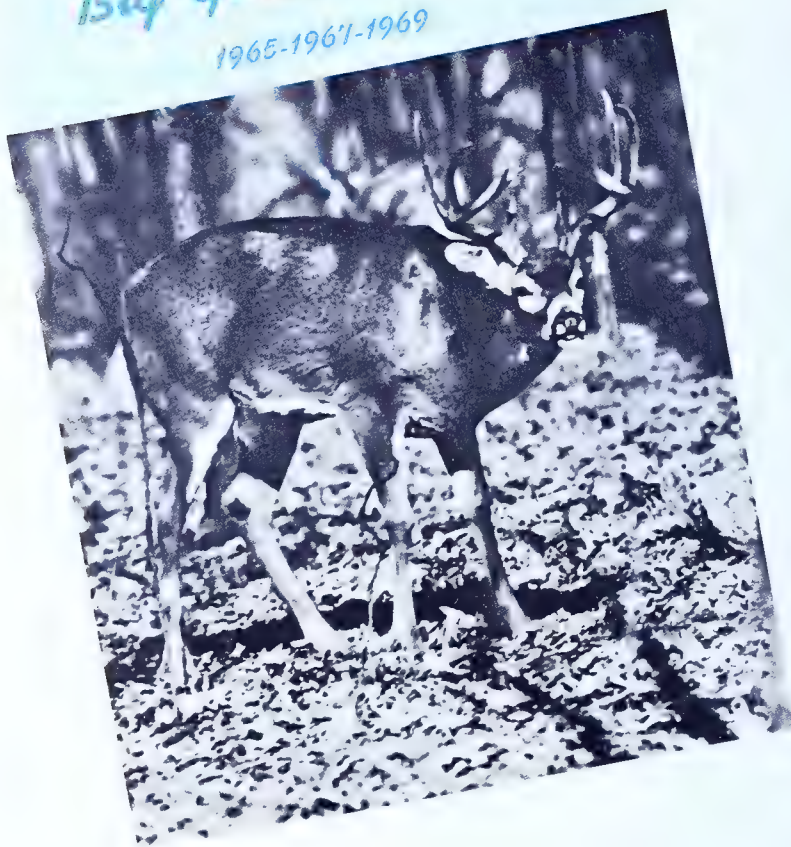
HOWARD NURSERY

SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brockway 15824. Phone: A.C. 814 265-0456

*Pennsylvania
Big Game Records
1965-1967-1969*



**This 96-Page Booklet
Contains the Master List
of Pennsylvania's Deer and
Bear Trophies As Scored in the
1965, 1967 and 1969 Measuring
Programs, Plus Dozens of Photos
of Record Animals and Many Articles
Related to the Measuring Programs.
Price, \$1 Delivered.**

**Make Check or Money Order
Payable to**

**PENNSYLVANIA
GAME COMMISSION**

**P. O. Box 1567
Harrisburg, Pa. 17120**

00051
1/16/71
1971
No. 10

PENNSYLVANIA GAME NEWS

OCTOBER, 1971

25 CENTS



Kent Bendleton

Published Monthly by the
PENNSYLVANIA GAME
COMMISSION
COMMONWEALTH OF
PENNSYLVANIA

Milton J. Shapp
Governor



COMMISSION MEMBERS

Edwin J. Brooks, President
Lansdale
Andrew C. Long, Vice-President
Shamokin
H. L. Buchanan, Secretary
Franklin
James A. Thompson
Pittsburgh
Loring H. Cramer
East Stroudsburg
Frederick M. Simpson
Huntingdon
Robert E. Fasnacht
Ephrata
Marshall E. Jetty
Brockway



Glenn L. Bowers
Executive Director



PENNSYLVANIA
GAME NEWS

Robert S. Bell
Editor
R. Theodore Godshall
Associate Editor
John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
The Big Sneak for Geese	2
By Byron W. Dalrymple	
Antlerless Deer License Applications	8
By Lincoln Lang, PGC Biologist	
Gimme Pheasants!	14
By Steve Kresge	
Pennsylvania Has the Edge	21
By L. James Bashline	
Wild Turkeys and People Pressures	26
By Gerald A. Wunz, PGC Biologist	
Heartworm Disease in Dogs	46
By R. Lee Pyle, B.S., V.M.D.	

NEWS

Field Notes	34
Conservation News	38
By Ted Godshall	
Hunter Safety Education	44
By John C. Behel	

COLUMNS

A Naturalist's View of Wildlife	49
(The Gray Squirrel)	
By Leonard Lee Rue, III	
White-Tailed Deer! (Archery)	54
By Keith C. Schuyler	
Shooting Accessories (Guns)	59
By Don Lewis	

COVER PAINTING BY KENT PENDLETON

To many hunters, Canada geese are the greatest gamebirds that fly. They're big—so big they look overpowering as they hang above you—and they're tough and smart. And besides these attributes, they bring a certain special aura of the outdoors with them, a mystery of far-off places that is compounded by their almost melancholy honking as they pass. Just the sound is enough to pull a hunter from his bed to watch them pass against the moon. And when the season on them is open, nothing could keep him at home.

Published MONTHLY by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$2.00 per year; \$5 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved. **NOTICE:** Subscriptions received and processed by the last day of each month will begin with the second month following.

Printed by Times and News Publishing Co., Gettysburg, Pa.
Second Class Postage Paid at Harrisburg, Pa. 17120, with additional entry at Gettysburg, Pa.

Hunters and Landowners

PICTURE THIS SITUATION: It's the first day of small game season, almost opening hour. You and your buddy are seated in his car, gazing out across fields and woods just starting to change color with the coming of fall. Your boots are greased, your old canvas pants and jacket well broken in, your guns—empty—are cased and lying on the rear seat, the dog's wet nose is against the window. You're all ready to start hunting. But there's a heavy, sinking feeling behind your breastbone, for your watch shows only a few minutes until starting time and you don't have any place to hunt. Sound familiar? I'll bet it does, for I doubt if there's a hunter in the state who hasn't lived through this little scene.

And the ridiculous part of the whole thing is, it isn't necessary.

No, I'm not going to make a detailed list of acreages kept open to public hunting through Game Commission ownership or cooperative programs, as that's been done often in the past. These lands are vitally important, of course, and will grow more so with each passing year, but they are not the most important factor in public hunting. They cannot be, so long as there is more hunting on privately owned land. And this is the case in Pennsylvania. While no exact figures are available, it seems probable that private landowners permit hunting on two or three times as much acreage as is available through Commission programs. Thus it is obvious that almost any hunter can, through personal contact, arrange for reasonable hunting privileges on a number of private farms. Tens of thousands of hunters do so each year. You can too.

But some things must be kept in mind. First, you must ask permission to hunt, and it's best to do so far in advance of the season. It improves your chances if you offer something in exchange—perhaps some help with farm chores during the busy season, maybe the purchase of some vegetables, perhaps a box of shells in the fall. After all, the landowner is doing you a favor, do something in return. And to show you're a responsible person, when you meet him for the first time, tell him your name and address. That way he'll know where to find you if he ever feels he has to. And it doesn't hurt to explain that you are experienced with firearms (as you should be before reaching this point), you're familiar with the game laws, you won't shoot farm animals, you won't hunt in unharvested fields or other areas he wants reserved, you certainly won't damage fences, buildings or anything else. Such actions could well get you permission to hunt the first time, and if you carry out your end of the bargain the chances are good you'll be welcome if you ask sometime again in the future. And when you're leaving, it's only common courtesy to thank him for letting you hunt and offer to share your game. Perhaps you'll find, as I have on occasion, that the most satisfying thing you can do with a big ringneck is give it to a new friend.—*Bob Bell*



Here's How to Put on . . .

The Big Sneak for Geese

By Byron W. Dalrymple

TOM HENNESSEY had been looking for a long time through his binoculars. We were sitting in his station wagon parked on the shoulder of a country road. Beside him I waited patiently but with mounting excitement the longer he studied the field along the river.

Finally he dropped the glass from his eyes and sighed. "I sure dread this, but I guess we gotta try. There's a flock of about 20 Canadas feeding maybe 50 yards out from that far line of trees."

I got out, reached for my cased shotgun and began to dig around for shells. "Don't think about the suffering part," I kidded Tom. "Keep thinking how good it'll feel when we quit—as we watch those big birds tumbling out of the sky!"

"Faith is wonderful," Tom muttered. "What you're saying is, one broken arm isn't as bad as two!"

We were going to try a sneak on those geese. That, in fact, was the whole object of this hunt—to locate feeding geese and somehow get near enough for shooting. In my hunting travels over the past three decades, I have stalked every kind of critter from moose to prairie dogs to jacksnipe to crows. But nothing hurts worse than stalking a darned goose. They never play fair.

You don't get a chance to make a stalk standing, or seldom even hunched over. You get down on your belly. Always there is mud. Your hands mash down on stubble and thistles. Invariably a bitter wind is blowing. Usually small puddles must be wallowed through and there is sure to be ice on them that crackles and cuts your palms while your beltline dips in water to sop the paunch you wish you could have left at home. Your partner is always angrily hissing, "What are ya, on point? Get your rear end down!" Or, "Your hat's showing, get lower!" Or, "Quit waving your gun barrel; keep it in the weeds!" All these little gems, of course, are just the build-up. For at last you are *almost* (but not quite) within range and then comes the rousing climax—the geese rise wildly, yelling vile names at you. You watch them stream away toward the horizon. Not a shot has been fired.

Something about this kind of anguish has a curiously deadly mesmerism. The exquisite torture is endured over and over because once upon a time you made a sneak and it all jelled. Birds *did* fall out of the sky. So, you do it over and over because *some*-time there's bound to be a repeat. Indeed, a sneak on a flock of geese may be pure agony. But when you pick up a great big gander, your sopping paunch and the mud in your eyes are instantly forgotten. You're ready to start all over again, and unquestionably destined to.

That is precisely the kind of suffering, and getting hooked, I have in mind here for Pennsylvania hunters. In Pennsylvania, many waterfowlers thinking of geese think only of the Pymatuning, up in the northwest corner of the state. This area furnishes excellent gunning, but the sport is of a static variety, all shooting being from blinds. A good many Pennsylvanians think this is the *only* worthwhile goose hunting the state offers. They are wrong. There is much better goose hunting elsewhere than most shooters are aware of. However, it's the kind you have to work at, and I do mean work. But you do learn a whole lot about geese, and the challenge makes it an authentic trophy-hunt type of endeavor.

Focal Region

Although a few scattered geese move down across Pennsylvania each season, the focal region for the sneaky kind of hunting I have in mind is the Susquehanna River, its tributaries, and outlying ponds and lakes along its course. It is hardly correct to call the course of the Susquehanna a flyway, but this valley does lead geese southward, and over the past few years it has been drawing more and more of them—numbers substantial enough to create truly important sport if hunters will learn how and be willing to work diligently. The big sneak on geese can emerge for anyone as a most provocative hobby to fill in between other hunting sessions, or it may become a main interest.

The starting point is learning the basic habits of geese. By "geese" we mean here Canadas. Canada geese are unmistakable.

They are large, dark, and easily identified by their white cheek patches. These big honkers, unlike ducks, are almost wholly land feeders. They will graze in green fields, eating varied grasses and such crops as winter oats. In farm lowlands they avidly feed on waste grains, harvested corn, wheat, any fallen grain. In fact, the way of the sneaky hunter to a goose is in most cases via its stomach.

Just as an example, on that morning Tom Hennessey and I found the flock, we had been cruising farm roads for several hours checking out specific fields we'd previously ascertained might have ample feed for geese. On our first pre-season tour we had questioned several river-bottom farmers. Had they had grain crops that season? Did they usually see geese in their vicinity in fall? By elimination we had located three areas where during hunting seasons geese had been commonly observed over a period of several years. Almost without fail such areas will be best. They will be places where the same crops are grown year after year, usually in the same fields. Migrating geese have learned to use these fields, even though briefly. Young birds—birds of the year—introduced to such locations their first season will often come back to them the next . . . just as geese home in on refuges year after year.

At any rate, in the three areas we had selected we had gained permission from landowners to hunt their fields specifically for geese. We had told them we would not do any indiscriminate shooting. That helps! And we had gone into several fields to check available forage. I don't remotely pretend that I can think like a goose, but we had selected several fields that—had we been geese—we'd have settled in.

Bear in mind that in this latitude geese generally roost on ponds or lakes, or coves along large streams. In some cases they roost

on land, too, but in protected places. They have an uncanny judgment about which spots to pick to avoid predators. Because they are exceptionally mobile birds, a flight of some miles to a feeding ground is no problem for them. But there is a great difference in the habits of geese during migration and their habits once they have arrived at their wintering grounds. For example, I have watched geese en route throughout the East where they follow mountain river valleys southward and observed that a certain flock may spend a week or more feeding in a single field where they are unmolested. But each night the same flock goes to roost on a small lake somewhere nearby. Conversely, in places like Louisiana and eastern Texas, winter destination, these same geese will spend an entire winter possibly without ever landing on a pond. They feed in rice fields, and roost there, too.

Tom and I were trying to find places where good overnight sites were available within short flying distance of good forage. Maybe less than a mile, or at most a mile or two. On three occasions we had seen geese in the air, and we had watched their direction as long as we could. Finally, just prior to opening of the season in October, we had spotted two different flocks feeding in fields we had bet on. We knew they could switch any day. Geese are whimsical. Also, if something or someone bothered them, they would not stay. But as it happened the one flock did stay, and sure enough they were present opening morning. To get you off the hook, we did make the sneak, somehow everything did shape up just right, and we each got a goose.

Such pre-season scouting and planning certainly moves one a few crawls closer to success. Not all hunters will have opportunity to do that much of it. They will have to make spur-of-the-moment sneaks. So, they must rely on their general knowl-



edge of the birds. Geese are rather sensible creatures. In most cases they wait until full dawn before flying from roost to feeding field. In Pennsylvania there is just no such thing as being able to predict movements accurately enough to consistently get any amount of pass shooting under such flights. A hunter who hasn't scouted earlier must cruise the roads near the river, pausing to glass for birds feeding in fields. They will settle in as a rule about at full daylight. If one flock is on a field, even a small flock, and another comes over, commonly that one will join the others. The presence of the first flock is an indication of safety and good forage. From this it might seem that decoys would be a good idea. Ordinarily, they are just too much trouble for the remote chance they may be seen. There aren't that many geese flying.

Once a feeding flock is spotted, unless spooked it probably will stay put during that morning. It will leave as a rule sometime between mid-morning and noon, and fly off to rest somewhere, perhaps on the selected roosting ground, perhaps not. A check-out of possible resting areas is not amiss, but these are seldom predictable. If the forage is exceptional, the flock will probably return to feed any time from 4 p.m. until dusk. Geese often feed right on until almost dark, then return in deep twilight to their roosting site.

If you spot a feeding flock late in the morning, you have to make a decision whether or not to gamble. On bright days they will have been out early, maybe getting restless. Any slight suspicion may flush them. If the day is overcast, foggy, drizzly, that's wonderful. You suffer more, to be sure, but you are far more likely to get to the geese. And, they are likely to stay on the feeding field later. On such a day, I'd swiftly decide to make a sneak regardless of the time. On bright days, if you spot them late in morning, it is perhaps wiser to gamble on the flock coming to the same place that afternoon. Be there about four o'clock. Don't be hasty to crawl. The later it gets—just so you don't run out of legal shooting time—the better. Low light is on your side. Obviously, you have to be hunting an area that is open, or have permission for the lands in question.

Both wind direction and the position of the sun are important to success. The closer to the horizon the sun is when you make your sneak, the better, morning or afternoon. Then, if at all possible, you obviously move with the low sun at your back. The eyes

of a goose, just like those of a deer or your own, are handicapped when looking directly toward the sun. The blinding light is a cover for you. Even on overcast days, if you've observed closely, you'll know that quite often just prior to sunset there will be a brief period of bright light, as the low sun seems to clear certain types of clouds in front of it.

Now about wind. The morning Hennessey and I bagged those two geese, we had a virtually perfect situation. It was a bright morning and we were able to make our sneak, with the maximum of cover, out of the sun. In addition, the wind was also "out of the sun." At dawn and dusk this is a common phenomenon. A heavy, long-winged bird such as a goose must arise from the ground into the wind. When frightened and making an all-out effort to escape it won't necessarily stay on that tack long. Tom and I got to within about 50 yards before the geese flushed. That is really too far for most any shotgun. A kill is not impossible but wounding birds is more probable.

Up and Running

However, our plan was previously made. The moment the birds became unduly nervous and we knew they were going to flush, we leaped up and ran toward them. With the sun at our backs we had perfectly limned targets. With the wind ditto, the geese were forced to rise into it. This moved them maybe five yards closer to us. A goose shot at headon is difficult to kill. It is unbelievable how shot can deflect from the feathers. Unless you get a lucky head shot or a broken wing, you may not get anything. But as the birds turned away, we shot at them quartering. This put them with wings strained, and the body cavity under the wings right in line. The shots we made were probably no more than 30 to 35 yards. Down the two came. By then the others were out of range. But our plan, carefully thought out, had worked, and one apiece pleased us mightily.

There are other ways to use the wind. In a very stiff wind, particularly when it is bitter, geese will get up and fly into it, and never turn back downwind. If they alight and are flushed again, they again move into the wind. Ordinarily such a wind is from the north. You can pretty well predict where the birds will go, if you know the country. In a bad blow that is severely cold, they won't fly far. Maybe half a mile.

One of the craftiest ways to utilize wind direction is for one hunter to sacrifice his



OFTEN, THE SUCCESS of a big sneak for geese depends on the thoroughness with which an area was scouted beforehand. Binoculars are needed—and so is permission to hunt.

shooting in order to assist a partner or partners. Let's say geese are feeding about as Tom and I found. They were 50-plus yards from a line of trees. But now assume the wind is blowing toward the trees. Had we approached from the trees, the easy way for us to find cover, the geese would probably have spotted us more quickly. They would get up into the wind, away from us, but would not circle back over us, regardless. They'd quarter away partly across the wind out of range. In this hypothetical situation, however, two hunters make a sneak and get into the line of trees. They're still too far away, but the wind is toward them. Now the "sacrifice" hunter makes his sneak downwind, toward the geese. He's the "driver." They quickly discover him, arise, turn downwind—and fly right over the two waiting hunters, who have spread out about 75 yards apart to get a "bracket" on the flock in flight.

Or, here's a third way to try. It requires a stiff breeze. A feeding flock is spotted and two, or preferably three, hunters make a sneak upwind. They are spaced so that the center hunter moves directly toward the geese. The other two are out at right and

left exactly two gunshot ranges away, say 70 yards each to play it safe for killing shots. In this stiff breeze the geese, when they flush, will arise into the wind, bank with it and turn. They will pass back over the hunters. Conceivably some may come right over the center hunter. Or, they may veer to right or left to avoid him. But if a good sneak has been made, perhaps to 60 yards, then the hunters all leap up and run at the geese as the center man signals by doing so. He has a 70-yard-wide swath with himself as center of it, and each end man also has a 70-yard swath of possible shooting. This totals a 210-yard gantlet the flying birds must run downwind. If the hunters have covered even 20 paces on their race to flush the birds, this puts the center man within a killing range, and means that veering birds orienting around and down the stiff breeze can hardly avoid coming within range of at least one, and probably two, of the shooters. A "sneaky" trick, perhaps, but in this tough game anything's fair that's legal!

Though some good sneakers are able to make impromptu decisions as to the best stalking route, consistently successful "goose crawlers" size up the situation ahead of time. It's not possible here, of course, to explain every detail. But a dredge-ditch bank or a drain grown to weeds, or the smallest gully or man-made diversion in a crop field, a line of trees, a patch of brush, a woven-wire fence that helps break up an outline—any cover that will assist in bringing one closer to the birds is useful. After you make a few sneaks, you get so you can quickly size up the problem. Occasionally an old building, an orchard, or even a crossing power line with poles evenly spaced, will afford some sort of cover. A trick I learned in the West when moving in on sage grouse on a flat sagebrush plain was to carry a small sage bush before me as I crawled. Geese won't fall for this if you move erratically but on occasion a straight approach, with a bush held before you as you crawl, gets you eventually within sprinting range. It's hard work, granted. But then, this isn't an easy kind of sport.

As noted with Tom Hennessey and myself, good binoculars are indispensable. With them you can locate birds that would otherwise be overlooked. They also help you size up approach terrain. A small ditch you can crawl along might be missed without optical assistance. In addition to this equipment, by all means use camouflage clothing. This may mean something different from what

you are thinking. Much goose terrain is not patchworked with the drab greens of standard camo. It may be sandy and brown in tone—dead grass and weeds, brown earth. Check out reversible types of camo clothing. Some suits come in a greenish hue on one side, tan and brown on the other. And don't end with just cap, coat and pants. Camo gloves and headnet are important. The human face is the worst "scare" item in the world of wildlife, and in the wide-open world of wild geese it stands out with all its menace. As a substitute for camouflage, wear clothing to match the general tone of the terrain.

Waterproof gear—the various nylon suits—in camo or drab colors are often most useful. So are waterproof boots. I've taken to wearing insulated short rubber pacs lately. They work fine. In guns, the 12 gauge with full choke is by far best for this kind of goose shooting. You usually have to reach out some, and you want plenty of shot in a small circle when you get it there. Magnums are great if you have one and can stand the punch. I personally like No. 4 shot in the short-magnum loads. Some go for No. 2s and certainly there's nothing amiss with the choice. Also, Hennessey, with whom I've tried the goose sneak many times, and I *never* crawl with gun loaded. If you are going to get close enough, you'll have time to chuck in shells from prone, if need be, a few yards before shooting time!

I'll admit I long ago became a dedicated field-sneaker. But there are other ways. In fact, along the Susquehanna system a good man with a canoe can cover a lot of territory. He has a chance of spotting geese on the river or its tributaries or in bordering fields. Once with a companion we drifted in a canoe, saw distantly a small band of geese against the righthand shore of a small island. We hauled out on the left, made a quick portage through timber, dropped in opposite and paddled to the island, then beached and made a swift stalk across the island. On another occasion, an island sneak in a narrow spot gave us shots that dropped geese on the opposite shore. The canoe served as our retriever.

Very occasionally when you are floating a stream, you'll happen to see flocks of geese

cutting corners. That is, though most will follow the stream course, there will be flocks that cut across between bends. Such spots habitually used are naturals for hiding a craft and getting into a makeshift blind. Hunters who live along the river may be able to spot such shortcut places and waylay geese on land, without use of a canoe or small boat. The sneak boat, though little used anymore, is also a most efficient piece of goose hunting equipment. If you're acquainted with an old hand who has one and knows the techniques, learn from him. Perhaps you might also find a partner willing to chip in on a sneak-boat building project, as a winter hobby.

Use Beaver Ponds

Particularly in northeastern Pennsylvania, geese use beaver ponds back in the woods as hideaways. If weather, especially wind, is severe along the river valley, small flocks will seek these ponds for protection. Now of course you have to know the locations of such ponds, and you have to hunt "blind." That is, you simply assume that geese are resting on each one you approach. The stalk must be exceedingly cautious. But at least on the beaver ponds you have cover for your sneak, and you take the birds as they rise. Keep wind direction to your advantage, planning on shots as they rise pushing into it and turn. Also, concentrate on these ponds only when hard shooting pressure or bad weather along the river may have pushed geese onto them.

In closing, let me admonish you not to be misled by my enthusiasm. Don't visualize daily limits of geese collected by your sneaky efforts. Feel lucky if you bring in a brace for a two- or three-day endeavor! Don't feel badly if you bat zero. Hunting is supposed to be for fun, remember? If you pursue the big sneak for geese you'll at least be able to measure your fun, geese or not, by the amount of mud on your britches and the number of aches and pains you have afterward.

In fact, I'll always recall how Tom described it. After several consecutive days of wallowing around and bagging nothing, I asked if he'd enjoyed it.

"Best goose hunt I ever had," he replied deadpan. "I can tell because *this* time I hurt *all over*!"

Gotta Put 'Em Somewhere

The pouch of the brown pelican, consisting of tough elastic tissue, is used as a carryall for captured fish.

The How and the Why of . . .

Antlerless Deer License Allocations

By Lincoln Lang
PGC Wildlife Biologist



Photo by Leonard Lee Rue, III

IF THE DEER HERD in Pennsylvania is to be properly managed, a certain number of antlerless deer must be taken in specified seasons. This article explains how the important decisions are made in this area of game management.

"STOP THE DOE seasons!" That is the cry heard over and over again! Why, then, doesn't the Game Commission heed the wishes of those who do not want a doe season—or, more correctly, an antlerless deer season? The answer to this may be somewhat difficult to comprehend, but if you will take time to reason through this explanation, the question will be answered.

First of all, if only 10 to 20 antlerless deer were shot during an antlerless season in the county in which you hunt, hunters probably would not be too concerned. It is the fact that hun-

dreds are taken in that county year after year that bothers some people, correct?

Because the number of antlerless deer harvested during a hunting season is governed by the number of antlerless licenses that are allowed to be sold, the opposition to antlerless seasons, then, is really based on the quotas of licenses that are put up for sale rather than the fact that there is an antlerless deer season year after year.

Therefore, why are so many licenses issued, and how is the number of licenses to be sold decided upon?

Naturally, the Game Commission must determine by some process the approximate number of deer present in each county. The rate at which deer can reproduce and repopulate that county after harvesting some of the does must also be known. In addition, some idea must be obtained as to the quality and quantity of food and shelter in each county and this area's ability to support deer. Can a certain county support more deer, or should less deer be carried throughout the next year? When adequate cover is not available in the form of conifer plantations and sheltered stream drainages, many young deer perish during severe winter weather. Also, depending on local food conditions, the quality and size of Pennsylvania deer vary greatly from place to place. In areas where the number of deer exceed the production of plant food, overbrowsing and malnutrition occur. This lack of essential protein, minerals, and other requirements is reflected in small

antlers, lowered reproductive capacity, and poor physical development. Conversely, nutritional difficulties are not encountered where the size of the herd does not exceed the food supply. In such situations the whitetail reaches its full physical potential.

By annually examining thousands of deer, Game Commission personnel are able to maintain a constant check on the health of the herd and, indirectly, the condition of the range. Most of these examinations are conducted at deer check stations, which you might have visited during the deer season or read about in **GAME NEWS**.

Much Information Obtained

These examinations include age determination, body weight, and antler development. This information is recorded, along with the county and nearest town where each deer was shot. These animals are, in a sense, representative of the deer in the area where they were taken. Additional information is gained from deer checked by Game Commission personnel at cold storage plants and similar establishments which process deer for successful hunters. More comes from an examination of deer killed by vehicles and other causes. These examinations are made by Game Protectors to determine the number of unborn fawns carried by does, thus enabling a reliable measurement of fawn production in certain areas.

A most apparent fact is that the best deer, from a standpoint of size and health, are found in places not necessarily considered deer country. On the other hand, many of our poorer quality deer are found in our "big woods" country where deer populations are usually high.

A look at how counties rate as to quality of deer will give you some idea how the Game Commission views them from the standpoint of whether the deer population in a county is in balance with the shelter and food supply found there.

Group I.

Counties with **excellent** quality deer (average basal diameter of antlers 21 millimeters with 5.1 or more points and average field dressed weights of 111 pounds or over for long-yearling bucks. Average number of embryos per bred two-year-old does—1.9 or more).

Armstrong
Berks
Bucks
Butler
Crawford
Erie
Greene
Indiana

Mercer
Montour
Northampton
Northumberland
Susquehanna
Westmoreland
Wyoming
York

Group II.

Counties with **very good** quality deer (average basal diameter of antlers 20 millimeters with 4.6 to 5 points and average field dressed weights of 106 to 110 pounds for long-yearling bucks. Average number of embryos per bred two-year-old does—1.8).

Allegheny
Bradford
Clarion
Columbia
Fayette

Lackawanna
Lancaster
Perry
Venango

MANY HUNTERS HAVE an aversion to taking small antlerless deer, but these animals are the ones with least chance of living through the winter. A quick bullet is better than slow starvation.

Photo by Leonard Lee Rue, III



PART I

CALCULATION OF PAST YEAR'S MINIMUM FEMALE POPULATION

Step 1	Step 2	Step 3	Step 4
Preseason Adult Male Population	Preseason Adult Female Population	Preseason Female Fawn Population	Total Preseason Female Population
Reported Antlered Kill Attrition Rate	Preseason Adult Male Pop. X Adult Sex Ratio	Adult Female Pop. X Female Fawn to Female Adult Ratio	Female Adults + Female Fawns
Example $\frac{1000}{.70} = 1428.5$	Example $\frac{1428.5}{x 2} = 2857.0$	Example $\frac{2857}{x .333} = 951.381$	Example $\frac{2857}{+ 951} = 3808$

PART II

PROJECTION OF FALL POPULATION OF ANTLERLESS DEER

Step 5	Step 6	Step 7	Step 8
Female Deer in Past Season's Antlerless Harvest	Postseason Female Population	Projected Recruitment	Projected Antlerless Population
Reported Antlerless Kill X Percent of Females Found in Harvest	Preseason Female Population — Calculated Female Kill	Female Population X Productivity Rate	Postseason Female Population + Recruitment
Example $\frac{1000}{x .80} = 800.00$	Example $\frac{3808}{- 800} = 3008$	Example $\frac{3008}{x .666} = 2003.328$	Example $\frac{3008}{+ 2003} = 5011$

PART III
PROJECTION OF FALL POPULATION OF ANTLERED DEER

Step 9	Step 10	Step 11	Step 12	Step 13
Past Preseason Male Fawn Population	Male Fawns in Antlerless Kill	Postseason Male Fawn Population	Postseason Adult Male Population	Projected Adult Male Population
Adult Females X Male Fawn to Female Adult Ratio	Antlerless Kill X Percent of Male Fawns in Antlerless Harvest	Preseason Male Fawn Pop. — Male Fawns in Antlerless Kill	Preseason Adult Male Population — Adult Male Kill	Postseason Adult Males + Postseason Male Fawns
Example 2857 x .333 951.381	Example 1000 x .20 200.00	Example 951 — 200 751	Example 1428 — 1000 429	Example 429 + 751 1180

PART IV
CALCULATION OF SURPLUS ANTLERLESS DEER

Step 14	Step 15	Step 16	Step 17	Step 18
Projected Total Minimum Population	Expected Antlered Kill	% Adult Male Kill of Total Population	Current Productivity Rate	Percent of Surplus Antlerless Deer
Adult Male Population + Antlerless Population	Adult Male Population X Current Harvest Rate	Expected Kill Total Population	Recruitment Total Population	Productivity Rate — % Adult Male Kill of Total Population
Example 1180 + 5011 6191	Example 1180 x .70 826.00	Example 826 6191 = 13.3%	Example 2003 6191 = 32.4%	Example 32.4 — 13.3 19.1%

Group III.

Counties with good quality deer (average basal diameter of antlers 19 millimeters with 4.1 to 4.5 points and average field dressed weights of 101 to 105 pounds for long-yearling bucks. Average number of embryos per bred two-year-old does—1.7).

Bedford	McKean
Dauphin	Schuylkill
Franklin	Snyder
Jefferson	Somerset
Juniata	Union

Group IV.

Counties with fair quality deer (average basal diameter of antlers 18 millimeters with 3.6 to 4 points and average field dressed weights of 96 to 100 pounds for long-yearling bucks. Average number of embryos per bred two-year-old does—1.6).

Adams	Luzerne
Blair	Lycoming
Cambria	Monroe
Carbon	Potter
Cumberland	Sullivan
Elk	Tioga
Forest	Warren
Lebanon	Wayne

Group V.

Counties with poor quality deer (average basal diameter of antlers 17 millimeters or less with 3.5 or less points and average field dressed weights of 95 pounds or less for long-yearling bucks. Average number of embryos per bred two-year-old does—1.5 or less).

Cameron	Huntingdon
Centre	Mifflin
Clearfield	Pike
Clinton	

Group VI.

The following are counties where too few deer have been examined to assign a classification, and where population estimates are made for management purposes by using general age structure figures collected statewide:

Beaver	Lawrence
Chester	Lehigh
Delaware	Montgomery
Fulton	Washington

The county groups shown were determined from current data. These classifications are evaluated annually. If the average physical measurements of bucks change, or there is a change in the average reproductive rate of does, a county will be assigned to another group from that held at present.

After grouping together counties having deer of similar quality, the ages (determined from tooth development and wear) of deer examined for each of these particular groups of counties are studied. Once the ages of the bucks examined are known, the percentage in each age class can be determined, i.e., how many 1½, 2½, 3½, . . . 8½-year-olds are in the sample. Calculations made from this age-class breakdown show the average rate at which male deer are being reduced in the counties listed for a particular group.

The legal hunting season accounts for the greatest mortality among adult male deer. If the rate at which hunters are removing bucks from the herd can be determined (by calculation) and the total number of adult males harvested is known (reported to Harrisburg by hunters), the *minimum* number of adult bucks which were present in the pre hunting season population can be calculated.

A simple example illustrates the methods. If the age-class data indicate that hunters are harvesting bucks at the rate of 70 percent a year in a certain county, and hunters reported taking 1000 antlered deer from that county, there must have been at least 1428 legal antlered deer available at the beginning of the hunting season ($1000 \div .70 = 1428$).

The adult sex ratio must be calculated before the number of adult females in the pre hunting season population can be determined. This is only

slightly more complicated than calculating the buck population. It is based on the percentages of adult does of each age class as compared to the percentages of adult bucks in these same age classes. Once the adult male-female ratio is determined, and the number of adult males in the pre-hunting season population is multiplied by this ratio, the minimum pre-season adult female population is known. Simple subtractions of all known losses—both male and female as reported by hunters—from the pre-season population will give the minimum postseason adult population. Ratios of juveniles to adult females in the hunting season harvest will enable calculation of the juvenile or fawn population. This, when added to the adult population, will constitute the total overwintering population and will be the basic herd from which the new fawn crop for the following year will be produced.

The productivity of the herd—fawns born and expected to survive into the fall—is gleaned from the sample of previously examined deer.

By combining all of the computations mentioned, the number of deer present at any given time of the year can be determined; and the approximate number of deer, by sex and age, that will be in the woods at the beginning of next hunting season can be forecast.

The accompanying charts give a hypothetical example of how a deer population is estimated for any given county using figures that might be expected to be close to those that are derived from the techniques and surveys explained in this article.

Steps 16, 17, and 18 of Part IV show percentages that might be similar to those used in selecting the amount of antlerless deer to be harvested. By

removing a percentage of antlerless deer equivalent to the productivity rate (step 17), the population can be expected to decline. A more stable herd size can be expected by harvesting a percentage equivalent to the calculated surplus antlerless deer (step 18). A harvest of antlerless deer equal to the expected antlered kill (step 16) should allow some increase in deer numbers the following year.

The percentage removal is selected on the basis of maintaining a deer herd at a tolerable level. The projected antlerless deer population (step 8) is multiplied by the selected percentage removal to calculate the desired antlerless harvest. If in this example 19.1 percent is the desired harvest percentage to be multiplied by the projected antlerless population of 5011, then 957 is the desired antlerless harvest.

Past records indicate the number of licenses that must be allocated in each county for an expected kill of one antlerless deer. If in the particular county in question the number of licenses needed to kill one antlerless deer were five, then $957 \times 5 = 4785$ antlerless licenses to be allocated.

While the procedures explained here are seemingly complicated and involved, they are actually only equations involving the ratios of bucks to does and young deer to old deer. These ratios influence the rate at which the deer population can increase. Therein lies the reason for an annual antlerless deer season, regulated by licenses predicated on herd sex and age structure.

This system eliminates such things as subjective guesstimates, opinions based on random field observations, or influences of political pressure groups, and rests the responsibility for a well-managed deer herd on the biological facts that are available.

Doesn't Dry Out

The average salamander does not have lungs. It breathes through its moist skin.



*Grouse Are Great, Ducks Are Demanding, Turkeys Are Tough. But
When It's Time for Me to Take the Field, I Say . . .*

GIMME PHEASANTS!

By Steve Kresge

EVERYTHING considered, a lot of guys around here have weird ideas when it comes to hunting. Just last month in GAME NEWS, for instance, Jim Bashline tried to convince me—and you—that pheasants should be abolished. Now I know Jim thinks ruffed grouse are the greatest game birds to ever scare the pants off a scattergunner who has each boot tangled in a separate clump of rhododendron, so I guess I can understand his reasoning even if I don't agree with it. But there are others too who have misguided approaches. One guy I hunt with regularly would rather make a double on quail than take a record-class whitetail, while up in the northwestern part of the state Bob Ent and Tom Henry place the wild turkey on a pedestal all its own—a feeling John Plowman would share if he could just forget the way his blood pressure zooms when those mallards bank in to his home-painted frauds on the point of that Susquehanna island. Great goshalmighty, I even have a buddy—I won't mention his name—who actually believes doves are the shotgunner's top target!

Much as I hate to say it, these guys are a little bit loco. Not crazy loco, just huntin' loco. Because the truth of the matter is—and any objective assessment of the situation will verify it—our top game bird is the ring-necked pheasant.

Maybe the best way to prove this is to look at these game birds in relation to each other. Take the grouse first. This is a lovely bird, no doubt about it. Shy and yet regal, a silver-brown phantom of the deep woods, the grouse doesn't bother anyone. All he asks is

to be let alone as he wanders his hemlock stands, his grapevine-tangled creek bottoms.

Some gunners feel compelled to specialize on grouse, and that is understandable, for there is a certain mood that always accompanies such a hunt. It's generated from mysterious shadows speared by shafts of sunlight in the big woods, the odor of crushed grapes in the hollows, the rusty-red leaves flickering on golden hillsides—and reinforced by that undeniable mystique created within us all by the countless paeans which have appeared in outdoor magazines for decades. The grouse is the greatest game bird ever, that's the distillation of all the observations, the absolute conclusion that almost all outdoor writers have reached, and most upland hunters—dedicated readers in search of The Word—have been convinced. Their belief is reinforced by their typical gunning result—a miss—compounded from equal parts of that nerve-shattering blastoff, lack of practice and grouse fever. Yes, the grouse has a lot going for him.

A Machinegun Burst

So do quail. In an overall view, the bobwhite has never had quite the stature of the grouse, but on a local or regional basis he's considered the top target by countless scattergunners. Where the grouse is a feathered missile that leaves many a gunner standing foolishly, mouth agape, gun unraised, a covey of quail is a machinegun burst, a sudden racketing eruption from dense ground cover which turns into a spray of brown bullets rapidly approaching maximum effective range of an open-bored gun.



YOU DON'T NEED DOWN DRAWERS for doves. A panful of ice cubes inside your hat would be more appropriate. There are no frosty mornings . . . just heat.

They're different than pheasants . . . but we'll get to the ringnecks a little later.

Meanwhile, there are turkeys and ducks to consider. And doves.

Turkeys, too, are different. Truly. In fact, they're probably unique among American game birds, more properly classed as big game than small, I feel. Perhaps they're assigned to the latter classification because they wear feathers and normally are hunted with shotguns. The ultimate in turkey hunting, however, probably is not experienced by the man who calls a bronze gobbler within shotshell range—exciting and suspense-laden as that act invariably is—but goes to him who has enough confidence in his sniping ability to take the field with a scoped smallbore such as the 222 Remington or the old 22 Hornet. When his crosswires settle firmly for a butt-of-the-wing shot or—for the high point of many hunting seasons—on the alert snakelike head, turkey hunting has reached its zenith. But here, as suggested a moment ago, we actually

have abandoned small game hunting and moved into the realm of big game. Turkeys perhaps should not even be discussed with upland game or waterfowl.

Ducks are something else. They, too, are a specialist's game, a target that's tempting both in the air and on the dining table. But somehow I have the feeling that it's not the ducks themselves that attract their gunners, but the milieu in which they're garnered. A day for ducks is rarely a simple event wherein a guy grabs his gun and some shells and sallies forth to pop a few. Rather, the operation is akin to a military maneuver, with logistics problems that only a dedicated ducker could solve—and find some sort of inner satisfaction in the doing. Viewed objectively, duck hunting, at least the classic kind, is not even a straightforward military maneuver but actually an amphibious one. A boat is necessary—perhaps a canoe or, on rare occasion, a Susquehanna sneakboat, but more likely a square-sterned aluminum model—and

some means of propulsion. Normally, this is an outboard motor, but oars or a paddle are required backup systems. Then there are cans of gasoline and oil, a large sponge for sopping out the boat, a hatchet for chopping new brush for the blind and twine to fasten it in place, a Thermos of hot coffee, a burlap sack of sandwiches, waders, wool shirts, waterproof parkas of camouflage design, down underdrawers (it gets *cold* on the water in December!), several calls (depending on whether the birds are coming in, going out or doing something else), binoculars (for looking long distances upriver so incomers can't catch you unaware), a tight-choked gun that will handle at least 1½ ounces of No. 4s and whose barrel is always just two inches too long to fit inside the blind with you, four boxes of shells using the above-mentioned load, another Thermos of coffee for when the first one gets empty. And decoys. Sacks full of decoys—a boat full of decoys. Hand painted, with movable heads and carefully weighted anchor lines which don't have to be cleaned of picked-up drift grass oftener than each half hour. These are the essentials. No use going into the luxuries, some duck hunter's wife might read this and get all worked up. But even the essentials are overpowering when it's considered that a day's legal limit of quackers is only three birds in much of the Atlantic Flyway. Perhaps Shakespeare was pondering the problem when he penned that immortal phrase, "much ado about nothing."

But let's not get carried away. There are worse things in the world than finding enjoyment in the ownership of good outdoor gear and taking pride in its skillful use, and there's much more to duck hunting than equipment. In all truthfulness, we have to admit that the prime attraction lies elsewhere. Maybe it's in the biting chill that seeps through the heaviest clothing while watering eyes endlessly search the early darkness and chilled ears strain for the whistle of wings

overhead, or maybe it's a subconscious satisfaction built of many tiny things—the crunch of the icy skin along the shoreline as you make ready to embark, the repetitive *platt* of wavelets against the coasting hull as the blind is neared, the bite of the Remington's frigid receiver when a bare hand grabs it. Little details, but they all add up, and at such times duck hunting isn't just a question of ducks, for they're a mere ghost-like part of the false dawn and the wind and the cold.

Feathered Phantoms

But suddenly that gray crack in the east turns silver and those phantoms have feathers and that Remington has real shells in its innards, shells that *boom* dully over the flat water, shells that smell of burned guncotton, shells that reach out to splash down ducks. For shooting ducks, and eating them, is part of duck hunting too, and it's understandable why a man might hunt them . . . but not necessarily why he'd prefer them to pheasants.

But let's talk of doves a moment.

You don't need down drawers for dove hunting. At least nowhere I've ever dusted them. A panful of ice cubes inside your straw hat would be much more appropriate. No frosty mornings here, but rather baking afternoons, with the dusty-green tall corn leaves hanging motionless in a breezeless stupor, while the heat builds up until the air is visible in the middle distance, piled there like a smothering cloud just waiting to move in on you, to blanket the one skinny spot of shade you've managed to find alongside a dead wild cherry tree in an overgrown fencerow. The only moisture for miles is the sweat that streaks your Ray-Bans during its salty course to the drip-off place on your chin.

During the weary hours you spend waiting for a flight to cross your stand, the stand that always produced last year—unless it happens to be the one you had last year—your throat builds

up layers of sandpaper, your camouflage jacket becomes as impermeable to any vagrant breeze as a plastic tablecloth, your boots quietly, effectively, ruthlessly turn your toes into quivering masses of athlete's foot. The little stack-barrel 20-gauge Winchester that weighed a bare six pounds when you lifted it from the rack now goes 16 at least, and those shells—why did you bring all those shells? There are reasons, of course. Doves by the thousands, by the millions, by the decamillions, are downed yearly. But when you stop to think that the meat from these millions of doves weighs, at most, perhaps 10 percent as much as the shot charges that were sent after it, it becomes clear why hunters' wives often speculate upon the sanity of their spouses, does it not?

Well, let us leave the dusty stubblefields, the ovenish fencerows, the baking cornfields of the dove shooter-atter, and consider a different kind of game bird, not a tiny, twinkling slate-gray streak that appears and vanishes like a dab of quicksilver, but a "big, gaudy, bold, loud-mouthed blankety-blank," as my grouse-poppin' buddy

once put it . . . after he had just emptied, uselessly, both barrels of his old 12-gauge Ithaca at one of the "big, gaudy, etc." critters which flushed underfoot from a patch of sidehill mountain country grapevines which no ring-necked pheasant was supposed to be within miles of.

That's one of the fascinating things about ringnecks. They're not always where you expect to find 'em, and they often erupt where all logic (which is inevitably based on incomplete data) says they shouldn't be. In such cases, though they make a big target and an old heavyweight rooster doubtless isn't traveling as fast as some of the earlier-mentioned species, it isn't uncommon for our doughty nimrod to register a miss. Sometimes a couple of 'em.

Ineptitude Unreported

This happens far more often than anyone knows, for the simple reason that most of our missers, if hunting alone or temporarily out of sight of their partners, tend to omit reporting their ineptitude when later recounting their deeds of the day. Something almost shameful about it, apparently. After all, a ring-necked pheasant is a big, slow bird. . . .

Or is it? Big, yes, compared with a grouse or bobwhite, but slow, I dunno. I've watched a lot of grouse and pheasant flushes, in all kinds of cover, and I seriously doubt if there's much difference in blastoff time, particularly when you're dealing with young pheasants such as today's hunter normally is. One big difference is the ringneck's common vertical eruption, which gets him clear of the thick ground cover he frequents. A flap-proof hunter can nail him quick, here, as he's leveling off to depart, but since this takeoff is often accompanied by a raucous, heart-jamming cackle that stupifies many hunters in the way that the grouse's noisy flush does, or causes an automatic "conditioned reflex" firing in only the general direction of the bird—often at his yard-long tail, which



DUCKS ARE SOMETHING else. A specialist's game, a target that's tempting both in the air and on the table. But it just isn't clear why anyone would prefer them to pheasants.

is really the wrong end to shoot—quite a few ringnecks live to fly another day after getting airborne within steps of the hunter. And once he's arrowing away, he's moving faster than any grouse and he's a heck of a lot tougher to drop, even when hit. A load in the seat of the britches will doubtless prove fatal, but unless a wing is broken he'll keep going to make fox food out yonder somewhere, instead of tumbling, as the grouse often does, to beat a wing tattoo on the forest floor.

Let's backtrack a minute and give some thought to typical pheasant cover. Actually, there probably isn't any such thing. We tend to think of normal farming country when we think of pheasant hunting, and when the season opens that concept is pretty much correct. Basically, they like flat country or low rolling hills. Overall, corn country is pheasant country, and they'll usually be found in or near standing corn or harvested cornfields. Surrounding weed fields, fence-rows and small woodlots also are utilized in the natural course of events. This is the sort of environment mentioned in most hunting stories on pheasants, technical articles by wildlife biologists, etc.—the sort that the beginning pheasant hunter always visualizes as he makes ready for his new sport. This is understandable, because before the opening gun they may be seen strutting across suburban lawns, eating with a farmer's chickens, or perching disconsolately on fenceposts by the road after a shower to dry their feathers, though most are in the corn of course. And for the first hour or so of the season, they're easy pickings in places like this.

Why wouldn't they be? Shoot, they believe that corn is *theirs*, that you're the intruder and you've got no dog-gone right to bother them! Gall, they've got. A brassy, cocksure, armor-plated regal belief in their own importance. But this is no defense against an ounce and a quarter of chilled 6s—in fact, their boldness is self-defeating. But they learn in a hurry. After the



PHEASANTS ARE NOT always where you expect to find them, and they often erupt where all logic says they shouldn't be. You gotta keep looking.

first few hours of the opening day, you don't shoot pheasants anymore, you hunt them.

And they're not all in the corn anymore. Some are, of course, particularly during the early morning and late afternoon feeding times, but now they tend to leave at the first sign of a hunter—they're often going out the far end of a long row as he enters the other—and they're heading for the thickest cover in the unlikely places. It's not unusual, provided you or your dogs can get into such places to move them, to find ringnecks in nearly impenetrable briar thickets on steep sidehills, in boggy, overgrown creek-bottoms where woodcock or snipe would be more at home, under multi-flora rose so thick it will support your weight as you cross it, under the overhang of ditches which drain high-weed fields, under the absolute center of huge, cut-off oak tops, still carrying huge numbers of dead brown leaves that conceal and protect most anything smaller than a mule, under clumps of frost-killed grass growing among driftwood near large creeks, even clinging to heavily forested hill-

sides so steep that you need at least one hand to help you climb them.

I could go on, but you get the idea. Note how many times the word "under" appears in the previous paragraph, and you'll begin to understand where the veteran pheasant popper looks for his birds after opening day. What he does is find the thickest cover in the whole doggone area and then stomp on everything. Eventually he gets his pheasants.

A pheasant is an all-or-nothing thinker. There's no middle ground in his noggin. He either takes off arunning at first sign of a gun, when the hunter may be literally hundreds of yards from him, or he sits tight—absolutely tight . . . motionless . . . with the nerve of a 30-year Marine—and bets that you won't find him; or that if you do step right on him—and that's what it takes sometimes—his sudden violent squawking takeoff will rattle you enough that he'll win his bet regardless. And it's his life he's betting, remember that. Would you have that kind of nerve if the situation were reversed?

Maybe now you understand some of the reasons I like pheasants. They're cocky, ask-no-quarter critters; they cheer up the landscape throughout

much of the year when no other wildlife is visible; on the average, after the first few easy shots, they're as hard to hit as grouse when flushed or ducks when they've got up a full head of steam and maybe a tailwind; they're ornery hard to raise much of the time, preferring running to flying, and then after they're downed their kaleidoscope colors can vanish in a clover field even if dead; and if one comes down alive, the one thing you can be sure of—perhaps the only thing you can be sure of with a pheasant—is that he's gonna run and run and run. All of which makes them miserable, spiteful critters to lots of hunters. But me, I admire their guts.

You want to be sure of a pheasant, you gotta hit him hard, preferably a couple times, then find him, grab him, and maybe wring his neck. And then he's just likely to come to in your hunting coat, sneak his way out and fly away. It's happened, brother, it really has. Pheasants don't give up gracefully like quail or grouse, they fight you to the last breath and then spit in your eye. You might say they ain't gentlemen, and you'd be right. All they are, like I said back at the beginning of this, is just the greatest game bird in the country.

81 Percent of Successful Hunters Reported Deer Kills

A Pennsylvania Game Commission study of the last big game season shows that only 81 percent of the successful deer hunters in the state in 1970 reported their deer harvests as required by law.

A successful big game hunter is required to report to the Game Commission on a card issued with the hunting license if he has taken a deer or bear, or both.

More than 100,000 hunters reported taking deer in the state last year, but the study of successful hunters would indicate that another 19,000 actually harvested whitetails and failed to report as required.

During and following the 1970 deer season there were a number of outdoorsmen who complained about an alleged "shortage" of whitetails. Perhaps the 19,000 who took deer and kept their deeds a secret could enlighten the complainers.

With Queen and Case . . .

Pennsylvania Has the Edge

By L. James Bashline

IN THESE days of mass-produced outdoor equipment it's always a pleasure to find a firm that still clings to the older traditions of hand craftsmanship. The two great knife makers headquartered in Pennsylvania are outstanding examples of this. To be sure they use the best steel that modern metallurgy has come up with, but rapid-fire assembly line techniques don't prevail at either the Queen Cutlery Plant in Titusville or at the Case factory in Bradford. I was, quite honestly, astounded to discover that after the rough blade and knife frame are stamped out of a sheet of steel or brass, the rest of the operations are all done by human hands and inspected by many pairs of skillful eyes. Many notions I had about the knife making business were quickly thrown out the window after touring these establishments. From preliminary grinding to the final packaging, all cutlery is constantly inspected and rejected if it isn't letter perfect. Neither Queen nor Case markets a "second quality" product.

A most interesting point about these two leaders in the industry is that at no time could I lead any of their people into saying anything uncomplimentary about each other. They seem to respect their rival's integrity, product and—well, it's just a pleasant competitive situation. Naturally, they believe that *their* product is unique and both of them can prove it.

Case Cutlery began in Little Valley, N. Y., and moved to Bradford in 1905. It was known as Case Brothers in Little Valley, and had been making knives since 1847. You would think that with that much experience they would know something about making knives, and that certainly is the case,



R. N. FARQUHARSON examines a special display board of Case knives. This shows only a fraction of the models made by this old, respected Pennsylvania manufacturer.

no pun intended. Included in the line are over 600 individual models with about 200 of these being pocket- and hunting knives. The rest are commercial and kitchen cutlery numbers, including shears.

While interviewing R. N. Farquharson, vice-president of W. R. Case & Sons Cutlery Co., I quickly discovered that he was extremely concerned about emphasizing the "handmade" aspect



SKILLED WORKMAN grinds edge on Case pocketknife. Several hundred hand operations go into the production of each such knife.

of Case's operation. He stated that over 200 hand operations go into the production of each pocketknife and over 100 hand operations are applied to each household and hunting knife. My initial reaction was to doubt this, but later, after touring the plant and watching the step by step process from steel sheets to finished product, my doubts were erased.

Frank Beddick, General Manager of Servotronics, Inc., the parent company of Queen Cutlery, was concerned with the same issue. He admitted that Queen had an assembly line of sorts but said that for all practical purposes each Queen knife was a hand operation. After spending several hours watching Queen knives being assembled, I don't doubt him either.

"Walk and Talk"

One of the most fascinating operations at both factories is the bench where the men who make the knives "walk and talk" sit. I wondered how the words walk and talk could be applied to knives, but that is figuratively what these skilled craftsmen do. In a completely assembled condition except for final polishing and honing, this part of the production line makes the final adjustments to be certain that each blade on a pocketknife fits precisely into its slot in the frame and opens easily but not too easily. An off-

center blade is straightened until it fits into the knife body in perfect alignment and snaps shut with an audible click, indicating that the spring and frame have been correctly put together. Any knife that cannot be adjusted with a minimum of labor is rejected. Surprisingly, few knives are hopelessly out of adjustment. This speaks well for the knife assemblers. Numerous inspections are performed at all stages of the process and by the time the knife gets to the "walkers and talkers" it's a pretty good bet that it will pass all other tests.

From the combined models that these factories put out it is possible for the sportsman, rancher, farmer, housewife or ordinary citizen to find a piece of cutlery to fill just about any need. Many of their models are similar in design and purpose, but some items are unique with each company. Queen, for example, is one of the few makers in the world currently listing genuine mother-of-pearl handled pocketknives as standard items. This material is costly and a bit fragile, so naturally a knife so decorated is more expensive to the consumer. Mr. Beddick said, however, that the demand for pearl-handled knives continues to be steady. As a knife lover, I would hope that

SOME OF THE BONE used for knife grips is imported from Brazil. Here a workman uses a table saw to make first rough cut for length.



this continues to be true. Perhaps it's just a status symbol, but I really enjoy carrying a handsome pocketknife, and a pearl-handled knife is just that!

A certain amount of secrecy surrounds the exact formula for Queen steel. They won't tell you exactly what's in it except to say that it does contain more carbon than many other knife steels. Case's special formula is not a public matter either. I may be wrong, but I'd guess that Queen's blades are a trifle harder than Case's. I have no scientific backing for this belief but, in sharpening, the Queen blade does seem to resist a bit more. This is not to say that one or the other is necessarily better. A very soft blade will not hold an edge for long and a very hard one cannot be sharpened in the field. The steel in the Case and Queen knives seems to be an excellent compromise.

Case has a rather special edge that they put on certain knives and they are so marked on the blade. When you see a Case knife marked RAZOR EDGE, you'd better believe it. These knives



QUEEN CUTLERY is one of the few makers in the world currently listing genuine mother-of-pearl handled pocketknives as standard items. This is an example.

are specially honed and I have never seen a better factory edge. I have one of their medium-sized pocketknives, number 6254 SSP, and I've nearly shaved my left arm bare demonstrat-



BASKET OF QUEEN knife blades is removed from heat treating furnace. Steel must be hard enough to hold an edge, soft enough to sharpen.

ing it to my friends. While some of the big knife addicts might scoff, I would not hesitate to carry this particular knife on any hunting trip. It will do almost anything a large knife will do . . . and a few things they won't.

With these two companies it's hard to play favorites. They both make so many knives that I'm attracted to, that to pick one over another would be unfair. Like fishing tackle and guns, knives are very personal items and everyone has a reason for liking a particular one. But I do like that Case pocketknife I just mentioned and the number 84 Queen hunting knife with its short 4-inch blade is a dandy too. The thin, highly polished blade is perfect as a small game knife and it will do a good job on deer as well. Some don't like the leather washer handles that this knife carries—a traditional design—because they have a tendency to slip when wet. The makers may not like this remark, but I always sandpaper leather-handled knives until the handle is roughed up. Do this once or twice a year and your knife will never slip out of a wet hand.

As a fisherman I was especially interested in the fillet knives that both companies offer. If you like a very



STEAK KNIVES ARE included among the Queen company's extensive line. Here, a wax coating is applied to protect blades until they are used.

flexible blade, the Case product is your best buy. If your taste leans toward a slightly more rigid blade, the Queen will make you happy. I've tried both and believe that for smaller fish like bluegills, yellow perch, crappies and the like, the Case works better because you can bend it in close to the backbone, while for something bigger like a walleye, flounder, or any other salt-water species, the Queen with slightly more heft will do a good job.

For the collector or outdoorsman who has illusions about himself as Davy Crockett or Daniel Boone, Case makes a Bowie knife that looks like a miniature battle sword. They must sell a lot of these because I saw several hundred being boxed for shipment. They also make a dozen other large and formidable looking creations. Not to be outdone, Queen too markets some pretty impressive numbers, such as their Number 78 hunting and combat knife. It's 11½ inches overall and sports a very fancy India stag handle . . . nice looking in the gun cabinet.

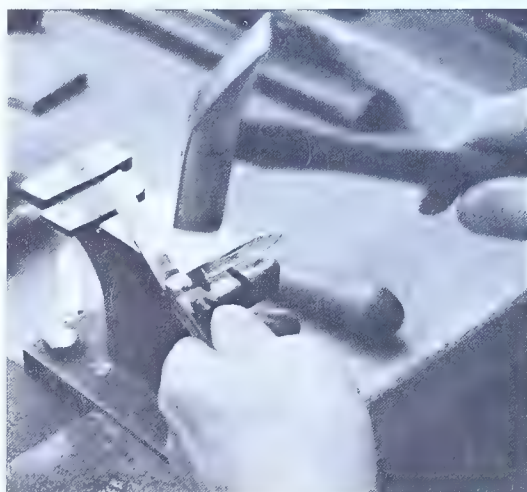
Messrs. Farquharson and Beddick came up with identical information regarding the distribution of knife sales in the United States. Southeastern

states seem to be pocketknife country. Sales are reasonably good in the Mid-and Far West, but we easterners just don't seem to go for pocketknives like the rebels do. "It's not surprising," said Farquharson, "to see an Atlanta banker pull a pocketknife out of his pocket to slit open an envelope, but you would never see the same thing happen in Manhattan." And then he added, "Maybe they're too civilized." HMMMMM. . . .

With few local exceptions, hunting knives sell well in all parts of the country—regulated only by the availability of game animals. Most hunters own more than one and not a few have a half dozen or more. While a good hunting knife will last a lifetime, few of them do since they are either lost or damaged. Repeat sales are a big part of the knife business.

In certain parts of the country, for one reason or another, certain knives have a local popularity that makes them outsell other brands by a wide margin. Down around Lake Cumberland, Kentucky, for example, practically every outdoorsman that you talk to is carrying a Queen knife. On a recent trip there I asked some of the residents why they bought this particular brand. They invariably replied

A "WALKER AND TALKER" makes blades of pocketknives function perfectly—a job that takes much experience and a certain instinctive "feel."



that Queen knives had always been considered the standard in those parts and, since they were good knives, why change? Good enough reason. In other parts of the country the same would hold true for Case. My father, for instance has carried the same Case knife in his pants pocket for over 40 years, and a recent report from John Hayden Coffey, a game refuge manager with Alabama's Game and Fish Department, tells how he used his Case pocketknife to administer first-aid to himself after being struck on the thumb by a rattlesnake. Mr. Coffey added that as part of his work he had used another Case knife—a hunting model—to help skin and dress more than 1500 white-tailed deer.

When proper care of knives was mentioned the faces of officials at both factories contorted with real grief as they professionally declared that most people do not know how to sharpen a knife. Now, both of them are treading on dangerous ground because everyone who owns a hunting knife or pocketknife knows exactly how to sharpen it . . . or do they? Beddick and Farquharson agreed that a knife should be sharpened on a good Arkansas or Washita stone at an angle of 10 to 15 degrees. Press the knife edge into the stone as if you were going to cut a thin slice from the stone itself. Don't stroke the blade toward you and don't use the circular motion used for sharpening a sickle. (Of course, we all knew that, didn't we?)

In an age where hurry-up manufacturing seems to be the rule, it was a refreshing experience to visit the Case and Queen factories. Both of

these establishments and their highly skilled employes really care about what they're manufacturing. If you're a person who must have a one-of-a-kind, super special, custom knife with a handle made from a timber of Mao Tse-tung's private yacht, you'll have to go to one of the elite custom knife



BOX OF QUEEN hunting knives ready for final sharpening. This all-around style can be used for cutting, slicing, skinning, etc., most anything an outdoorsman does.

makers with a large bundle of money in your hand. If you want a 98-cent two-bladed wonder complete with breakable handle, go to the dime store. But if you're like most of the rest of us and want an excellent, long-lasting, good-looking knife and don't mind paying a fair price for honest quality, I'd suggest a Case or a Queen. If you're a Pennsylvanian, you really ought to.

Impressive . . .

Male pupfish are colorful, with iridescent blues and purples on their backs and sides, and with black bars and dark fin edges. Females are mottled brown, and usually smaller and slimmer than males.



Wild Turkeys and People Pressures

By Gerald A. Wunz
PGC Wildlife Biologist

THE EASTERN wild turkey (*Meleagris gallopavo silvestris*) has been considered a semi-wilderness species requiring a large remote range with a minimum of human activity. Mosby and Handley (1943) recommended at least 15,000 acres for a public hunting area in Virginia, but conceded 5000 acres might be adequate for private hunting preserves. Latham (1956) also considered 15,000 acres as minimal and 50,000 acres as optimal to manage turkeys for public hunting in Pennsylvania.

More recent observations, however, suggest a greater tolerance to disturbance and restricted range. Along the periphery of Pennsylvania's contiguously forested primary range, turkeys sometimes ventured out into adjacent farm land to inhabit woodlots where they were subjected to more frequent contacts with man. This indication of the bird's adaptability was a revelation which buoyed hopes for restoring turkeys in the inferior habitat of more heavily human populated regions.

In Pennsylvania, where most of the remote habitat is already occupied by turkeys, additional expansion of their range would involve smaller forested units interspersed with urban areas (Wunz and Hayden, 1967). To obtain more precise knowledge of turkey tolerance thresholds for guiding present restoration efforts and planning future management under the threat of rising human populations, an investigation was started in 1966.

The design of the investigation was to release wild-trapped turkeys on a study area with range so limited in

size and human disturbance so great that the birds' survival was unlikely. If this release failed, other areas with somewhat more hospitable habitat would be stocked until an area meeting their basic tolerance levels was found. To reduce bias of environmental factors, other than range size or disturbance, all study units contained the recognizable vegetative aspects of turkey habitat.

Presque Isle Study Area

In 1966, the peninsular Presque Isle State Park was selected as the initial study area because of its limited size and intense human activity. This pork chop-shaped sand spit, jutting six miles into Lake Erie at the city of Erie, was deposited by an easterly flowing long-shore current. A four-lane access road and a beach road span Presque Isle's $\frac{1}{2}$ -mile wide by three-mile long attachment to the mainland. The outermost part of the peninsula widens to $1\frac{1}{4}$ miles to contain approximately 1200 acres of forests and savannahs, 400 acres of lagoons and marshes and 200 acres in marinas, beaches, parking lots and a U. S. Coast Guard Station. An inland waterway and eight hiking trails, in addition to a two-lane scenic highway that leads to swimming beaches and picnic groves, make nearly all of the park readily accessible.

Intense use by people eliminated all but 600 acres of the forests and savannahs on Presque Isle State Park from consideration as turkey range. Mature oak forests occupied about 400 acres of this potential habitat. The remaining 200 acres, located in a section of more recent sand deposition, were vegetated with 40- to 50-year-old Scotch pine plantations and earlier successional stages of dune and filled

This paper, a contribution of Federal Aid to Wildlife Restoration, Project W-46-R, was presented at the Northeast Fish and Wildlife Conference, Portland, Maine, in May, 1971.



PGC Photo by CIA Wes Bower

WATERWAYS PATROLMAN Jim Valentine with 18-lb. gobbler taken in Huntingdon County during 1971 spring season. The future is expected to hold even greater opportunity for such trophies.

lagoon communities. Jennings (1909) outlined these stages which have apparently been altered since then by plant introductions and excessive deer browsing. Most of the numerous species of trees and shrubs that composed the unique flora of this peninsula were recognized turkey foods. Apparently due to the low incidence of frost damage resulting from the moderating influence of the surrounding waters, most species usually produced good seed crops.

Daily monitoring by a traffic counter on the peninsula's only access road showed this park was heavily used year-round by a large variety of recreation seekers. Fishermen, hikers, bird watchers and pleasure drivers were common in all seasons, but the bulk were summer visitors for swimming, sun bathing, picnicking and boating.

During the five years of this study, the annual number of park visitors varied from 3.2 million in 1967 to 4 million in 1970. The long-term annual increment has averaged about 100,000 visits. The average daily attendance in 1970 was 11,000, ranging from 5,000 during the fall and winter to 23,000 during the summer.

Upland game hunting was illegal, but waterfowl hunting was allowed from shore blinds on the peripheral waters of Lake Erie and Presque Isle Bay.

Pymatuning Study Area

During 1969 and 1970, two additional marginal range areas (Pymatuning and Beaver Run) located in farm regions with approximately 25 percent woodland were included in the study. The state-owned Pymatuning Refuge and Goose Management Area is situated in the flat farming region of western Crawford County near the Ohio border. Forested habitat on the area contained about 1000 contiguous acres in a shoreline strip of northern hardwoods, conifer plantations and hemlock-tamarack bog forest which formed the north and east boundaries of the goose hunting tract. Half of the forested area was open to hunting, but the remainder was limited to controlled waterfowl shooting.

Although the amount of turkey habitat was not significantly greater on Pymatuning, it was less confined by water barriers than on Presque Isle. Except possibly during the fall waterfowl season, disturbance from people was much less on Pymatuning.

Beaver Run Study Area

Beaver Run is a municipal watershed in Westmoreland County of 7000 acres which borders a 1200-acre, five-mile long reservoir. Approximately half of the watershed property is composed of oak woodlots and pine plantations, the remainder is reverting farmland in varying successional stages. Located in a hilly farming region only 25 miles from Pittsburgh,

the surrounding area is dotted with small industrial cities and suburban communities. Although hunting is not permitted on the watershed property, some trespassing occurs from the heavily hunted adjacent farmland.

Compared to the other two areas, turkeys had a larger range on Beaver Run and were probably subjected to less disturbance than those on Pymatuning.

Turkey Survival on Presque Isle

In February, 1966, nine wild-trapped turkeys (six hens and three toms) were released on Presque Isle State Park. One month later, two hens and all three toms left this 2000-acre peninsula via its narrow-necked attachment to the mainland and took up residence on a 100-yard wide by one-mile long wooded bluff that borders Presque Isle Bay in a residential section of the city of Erie. By fall one gobbler was dead and the hens had dropped from sight. The two remaining gobblers survived the winter in this restricted range despite considerable harassment from dogs and curious people, and were last seen crossing the waterfront industrial area to the east side of Erie in May, 1967.

The status of the remaining four turkeys was uncertain for more than a year after being released on the peninsula, until two hens were sighted by park personnel. To add to these residual turkeys, two trapped poult were liberated in September, 1967. At least three turkeys survived the winter and two wild-trapped gobblers were released to complement the two or three surviving hens. As a result, one brood of 12 poult hatched in July, 1968. Nine turkeys (five hens and four toms), at least five of which were survivors of the brood, were counted during a December, 1968, census. Four additional hens were stocked in March, 1969, to provide a more favorable sex ratio.

A small brood was produced in 1969, but few or none of the poult survived, as the nine birds (three toms

and six hens) enticed to baited sites in the fall appeared to be adults. Only two hens were known to be present on Presque Isle during the spring of 1970 when three additional wild-trapped hens were stocked to complement the three adult gobblers. One of the gobblers had been released in 1968 and the two were survivors from the 1968 brood.

Although no broods had been reported, I saw three late-hatched poult with four adult hens in October, 1970. Including the three surviving adult gobblers, this placed the population at 10. During February, 1971, at least eight birds remained: four hens, one juvenile tom and the same three adult gobblers.

These turkeys seldom ventured into the sparse understory mature forest. Instead they tended to confine their range to 200 acres of early successional stage forests on the outer section of the peninsula that contains nearly all of the conifer cover and the densest understory vegetation on the park. The 50 acres of Scotch pine plantings parallel the lakeside scenic highway for 1¼ miles. They are bordered on the other side by a filled lagoon of pin oak and red maple, by sand ridges of cherries, service berry and cottonwood, and a cattail marsh. At its widest point, this elongate habitat extends only one-third mile back from the highway to the marsh. Understories and the interspersed savannahs are vegetated with bayberry, bush honeysuckle, pine regeneration, tall grasses, sedges and goldenrod. For escape, the turkeys have been seen using the dense red osier, silky dogwood and buttonbush thickets on the edge of the marsh.

Turkey Reproduction on Pymatuning and Beaver Run

No additional turkeys have been liberated on Pymatuning since the initial stocking of 13 wild-trapped birds in March, 1969. Two months later, two of these birds were seen six miles southeast of the release site and one

year later one of the adult gobblers was shot 100 miles southeast of Pymatuning. But sufficient birds remained to reproduce during the two breeding seasons that followed. In February, 1971, 30 birds were counted, most of which were concentrated on the refuge section of this public hunting area at the original release site. These birds have not been observed to extend their range beyond 500 acres.

During the one year since 12 wild-trapped turkeys were transferred to the Beaver Run area in February, 1970, reproduction has more than doubled the population. Two of the three gobblers stocked were shot during the 1970 spring season. These turkeys also have tended to remain close to their release site, known to range over only 1200 acres, despite the fact that more habitat is readily available to them.

It is significant that turkey reproduction has been superior on Pymatuning and particularly on Beaver Run,

where the ranges were not so confined and human activity was much less. Although the turkeys on Presque Isle have demonstrated amazing tolerance to a hostile environment, particularly those that survived for a year in the city of Erie, they appear to have reached their threshold. A brood has hatched each year on Presque Isle, but hen and poult survival seemed inadequate to maintain their numbers. Without stocking of a few additional birds in 1967, 1969 and 1970, the hen segment of the population might have disappeared.

It is not known if human disturbance is solely responsible for this poor survival. The formerly abundant raccoons have decreased during the study and are at a low ebb, but foxes appear to have become very abundant in their place. Four fox dens, less than 100 yards apart, were located in 1970 in the area frequented by turkeys. Obviously neither predation nor any other factor has affected the adult gobbler

SINCE WILD TURKEYS APPARENTLY can adapt to smaller range units than formerly believed, the future for this great game bird is even brighter than the present—and it's fine now!



population, which has survived intact for three years.

The possibility also exists that turkeys have exceeded tolerable density levels on Presque Isle. The birds have confined their range to only 200 acres of the thickest understory habitat on the park, where their density of at least 25 turkeys per square mile far exceeds that found anywhere else in Pennsylvania.

Observing the behavior of turkeys in response to the activity pattern of people on the park has shed some light on this seemingly abnormal use of brushy habitat. It appears that the open forest, supposedly optimum habitat, was avoided by turkeys because they were frequently disturbed by the sight of humans. Although hikers often also used the trails that traverse the brushland habitat (two parties per hour were recorded on weekend afternoons), the denser cover reduced chances for harassment from visual contacts. These contacts were largely one-sided, as the turkeys were seldom seen by visitors or park workers, even though the birds seldom ranged beyond one-fourth mile of the main road that circles the park. The management implications from these findings are that turkeys may tolerate smaller range if brushy escape areas are provided. It may also be practical to create denser understories, particularly bordering roads and trails, where human disturbance is resulting in untenable turkey habitat.

Significant is the fact that frequent contacts with people and automobiles on Presque Isle, and to a lesser extent on the other areas, have not noticeably reduced wildness of the birds. Retaining wildness is undoubtedly the key to their ability to survive, although this may appear to defy the

logic that a tamer bird should be better equipped to tolerate people. Past failures of game-farm stock to reproduce and establish turkey populations on these areas are cases in point. Game-farm turkeys were tried on at least two occasions prior to the intensive development era on Presque Isle Park when the habitat was twice as large and the number of visiting people was only half of what it was in 1970.

Conclusions

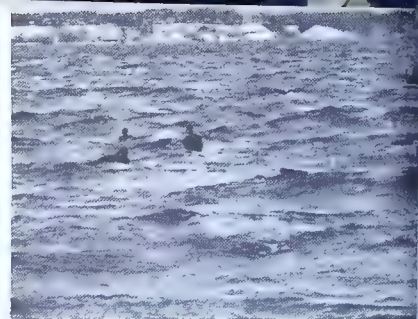
This study demonstrated that wild turkeys can adapt to much smaller range units and far greater disturbance than were thought possible. This changed concept of habitat requirements renews hope for this game bird's future, based on its ability to survive our exploding numbers of people. For the present, it opens possibilities for establishing turkeys on forested units as small as 500 acres in the more densely human populated regions. Even smaller range units may be considered in areas of lower human population. These establishments would be largely esthetic, however, with hunting restricted to spring seasons for gobblers.

Literature Cited

- Jennings, Otto E., 1909. A botanical survey of Presque Isle, Erie Co., Pa. Reprinted from *Annals of Carnegie Museum*, 5 (2 & 3).
- Latham, R. M., 1956. Complete book of the wild turkey. The Stackpole Company, Harrisburg, Pa. 265 pp.
- Mosby, H. S. and C. O. Handley, 1943. The wild turkey in Virginia: its status, life history and management. Virginia Comm. Game & Inland Fisheries, Richmond, Va., 281 pp.
- Wunz, G. A. and A. H. Hayden, 1967. The wild turkey in Pennsylvania. *Pennsylvania GAME NEWS* 38 (11):7-13.

That's the Trouble

Almost all the houseflies that live through the winter are fertilized females, ready to lay eggs the following spring.



FROM HIS LONELY box
to take a duck he's spotted

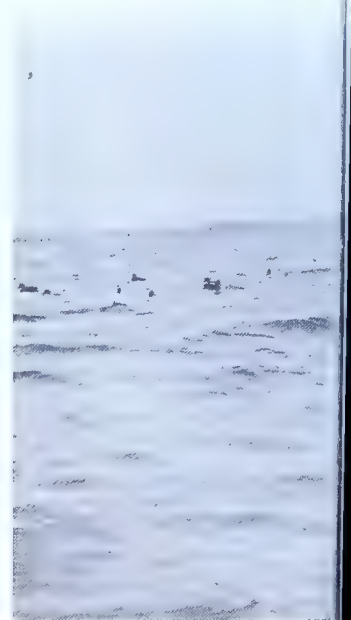
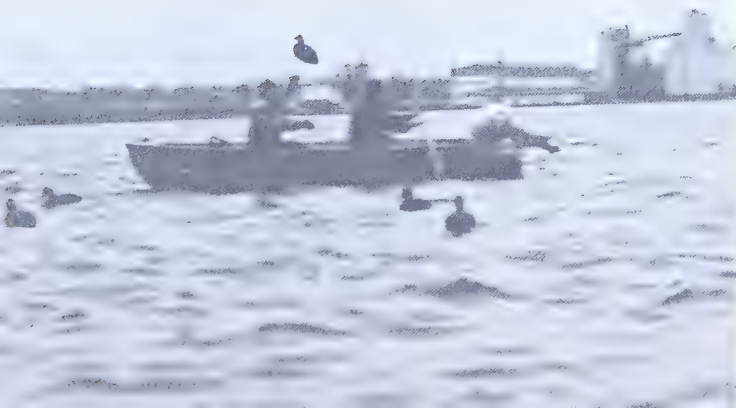


HUNTERS, above, prepare for day's shooting by towing float box several hundred yards into bay with power boat. Below, some three dozen oversize decoys—bluebills and cans—are put out and anchored downwind of the float box.

Float Box on

THERE ARE different ways to hunt ducks. The least known is by float box. From the shore, the hunter sits in his tiny pitching box, a server, trying to see any decoys, mentally separating them then trying to sit up in the muzzle ahead of the incoming successful—and that's a float-box hunter coming.

FLUORESCENT O
duck to friends on
with boat. Straight-
flag means a crippling





decoys, gunner gets ready
stance.



TYPICAL DAY'S BAG for float-box hunters—scaup, redhead and merganser.

que Isle Bay

unting ducks. One of the
hile his buddies watch
ost parallel to the water
gun, shells and life pre-
t are dropping in to his
from mergansers, and
g "cork," swing his gun
shoot. On occasion he's
keep a dedicated Erie
more!

J. Kriz
life Biologist

AG signals downed
will make the pickup
s dead bird, waving



AFTER shooting is
done for day, decoys
are picked up, above
right. Danny Hon-
ard, right, shows
canvasback and two
scaup he downed
during his turn in
the float box.





FIELD NOTES



Returning a Favor

FAYETTE & SOMERSET COUNTIES—One evening I visited a farmer who was baling hay. The farmer was being helped by a sportsman who hadn't found the groundhog hunting up to par that day. If there were more hunters like this one, it would mean less posted farm land.—Land Manager D. E. Jones, Somerset.



Emergency Treatment Works

CRAWFORD COUNTY — Deputy Dunham and I found a young nearly dead beaver in a trap. We took it to Dr. Rees in Titusville. He called the hospital emergency room and told them he was sending a 2-month-old patient up there and to inject a prescription in its hip, which upon arrival they did. The beaver was kept warm with a hair dryer and towel; in 3½ hours he recovered, and 4½ hours later he was eating. I retained the beaver overnight and released him at Blair Bridge, where Officer Haines had previously released his mother.—District Game Protector W. E. Lee, Titusville.

Well . . . Not Quite, Mark

CENTRE COUNTY — Several months ago while teaching my five-year-old son Mark a little about wildlife, I was amused when he turned the page of his book to the white-tailed deer. I explained how you tell bucks from does in hunting season, along with some other information about the deer. Later in the evening I thought I'd quiz him on what he had learned. My first question was, "What do you call the things on a male deer's head that help tell them from does?" His answer—"Buckles."—District Game Protector D. Sloan, Bellefonte.

Now We've Heard It All

BUTLER-LAWRENCE COUNTIES — After all the years I have served the Game Commission, I recently had a telephone call that tops them all. Ron Twentier, 16, of Slippery Rock, phoned to say he had captured a 4-foot alligator, while walking along the bank of back waters that flow into Slippery Rock Creek. Upon investigation, Food and Cover Corpsman Stewart and myself found the story to be true, and later found the 'gator belonged to Dr. Dryden from Slippery Rock College. Upon receiving permission to retain the alligator for a few days, I was able to display it to the Butler County Junior Conservation School. While the alligator was in my possession, someone pushed one end of my 50-foot rubber hose into the pen and the 'gator sunk his teeth into it. I now have a permanent spray at the end of the hose.—Land Manager W. E. Portzline, Slippery Rock.

An Action Outfit

WYOMING COUNTY — There is much conversation about conservation or the improving of one's local environment. It is gratifying to hear of action programs not only planned but executed. The Noxen-Monroe Sportsmen's Club is moving out front. Recently, several miles along Bowman's Creek were cleared of litter and they are talking about a bounty on litter-bugs. Plans are being made to expand the safety zone program in their particular area, adding more places for sportsmen to hunt. A move is on for a Junior Club. Hunter safety programs also are on the agenda and they have plans to plant waterfowl foods in the beaver dams located up on South Mountain and Possum Brook country. All this leaves us with the question—what is your club or group doing in your own backyard?—District Game Protector A. J. Kriefski, Tunkhannock.

Stowaway

CLEARFIELD COUNTY—Deputy Lynn Long was preparing to leave for home after a visit with relatives in eastern Ohio when one of his children saw a kitten disappear under the car. Before the car was moved a thorough search was made, but the kitten could not be found. The next day, after arriving in Clearfield the night before, Deputy Long was working in the garden when he heard what he thought was a catbird calling. He thought that it must have been practicing while they were gone, because it sounded more like a cat than ever. However, an investigation disclosed that the sound was coming from under his car. The car was jacked up and there on the rear axle housing sat the disappearing kitten, none the worse for its 100-mile ride from Ohio. — District Game Protector C. L. Keller, Clearfield.



Friendly Fellow

HUNTINGDON COUNTY—While traveling along Route 305 one night in early July, David Weaver of McAllevys Fort had a flat tire. With his wife holding a flashlight, Dave was changing the tire when Mrs. Weaver noticed a woodchuck come up from the brush. They thought this was a bit unusual since it was 11:30 p.m. Mr. Woodchuck waddled over to where he could see what was going on and proceeded to watch Dave change the tire. Mrs. Weaver thought she might be able to pet the chuck, and to her surprise it allowed her to do so. All this was observed by the Weaver children through the car windows. When Mr. Woodchuck saw the children he immediately sat up and commenced to make noises as if he was trying to strike up a conversation with them. After a few minutes of this, Mr. Woodchuck waddled over to have a final look at Dave's hard work and then went down over the bank.—District Game Protector E. N. Gallew, Alexandria.

Now You Know

MIFFLIN COUNTY—Twenty-two species of hawks and eight species of owls are found in Pennsylvania.—District Game Protector J. D. Moyle, McVeytown.



Work or Fun?

CUMBERLAND COUNTY — The Appalachian Trail passes through State Game Land 170 in Cumberland and Perry Counties, and I have met some of the people who are hiking this famous trail. Most are carrying pretty big loads and are a long way from home. There was the Boy Scout Troop from Newark, Del.; the three lads from Harper's Ferry, Va.; the young man from Georgia who was hiking the entire trail which runs from Georgia to Maine; and the mother and son from Philadelphia who couldn't interest Dad in this outdoor recreation. All of these people, and others I have talked to or waved at along the trail, young and old alike, seem to be really enjoying something which most of us think of as hard work—walking up and down mountains on a hot July day. — District Game Protector J. P. Filkosky, Mechanicsburg.

Bunch of Bruins

LYCOMING COUNTY—I have had quite a few reports of people seeing bears and I have seen six different ones myself. The mast crop appears good this year, so the bears may stay here for the hunting season.—District Game Protector P. A. Ranck, Williamsport.

Really With It

BUCKS COUNTY—While talking to Mrs. James Bond of West Chester, I was informed that earlier this month she and my dad observed a grey squirrel crossing the road near their home. As it came closer they noticed it had one end of a necktie in its mouth, with the rest trailing along behind. As they watched, the squirrel proceeded up the nearest tree, tie and all. Incidentally, it was a new, wide-style tie, which would have one believe that the squirrels in West Chester are hip to the latest fashions. —District Game Protector E. F. Bond, Doylestown.



Different, Anyway

SUSQUEHANNA COUNTY — When American flags began to disappear from grave markers at the Rose Hill cemetery, caretaker Bruce Swartwood immediately rejected the idea of vandals because he said kids in Hallstead wouldn't do things like that. After a little vigilance the culprit soon became known. Bruce saw a red squirrel neatly clip a flag from its stick, roll it into a ball and carry it into a tree cavity where it was no doubt converted into nesting material.—District Game Protector D. G. Day, Hallstead.

Other Viewpoints

CUMBERLAND COUNTY—While on vacation through the New England states and New Brunswick, I had the opportunity to come in contact with several conservation departments. They certainly rolled out the red carpet for us when they found that we were affiliated with the Pennsylvania Game Commission. Our land acquisition and farm game programs interested them greatly. They cannot understand how we keep so much land open to public hunting, especially on our farm-game and 1-2-3 programs. The landowners here in Pennsylvania are certainly to be congratulated for their cooperation and unselfishness in sharing their lands with others.—District Game Protector E. F. Utech, Carlisle.

Gourmets Needed

ERIE COUNTY—After stocking approximately 30 4-week-old ducks on a beaver pond, I noticed a steady decline in their number. I set out five turtle lines and caught three turtles of approximately 20 lbs. each. I gave them to some people to make soup, and they reported the turtles were full of duck feathers. If turtle soup would become more popular, maybe we would have even better duck hunting.—District Game Protector W. A. Lugaila, Waterford.

GAME NEWS Gets Around

SUSQUEHANNA COUNTY—Walt Galloway, formerly of Susquehanna, is working in Japan so he has his GAME NEWS sent there. After three more American families read it, it is passed on to Japanese friends who look forward to its arrival with great enthusiasm because hunting is very limited in Japan.—District Game Protector D. G. Day, Hallstead.

Good Usage

TIOGA COUNTY — Two young woodchuck hunters from Avis believe in picking up their game. Upon being checked by Deputy Worden from Mansfield, they proudly displayed 20 field-dressed woodchucks on their way to the frying pan.—District Game Protector J. K. Weaver, Mansfield.



Speedy Shuler

UNION COUNTY—A recent complaint concerning bear damage required the placing of a bear trap. Deputy Troutman and I finished setting the trap about 8:30 o'clock on a Sunday evening. I returned the deputy to his home and returned to my headquarters about 9:15 p.m. As I opened the kitchen door the phone was ringing and when I answered the voice said, "Come out, we caught the bear." Is 45 minutes a record?—District Game Protector J. S. Shuler, Lewisburg.

Hard To Do

VENANGO COUNTY — My most unusual request this month was from a lady wanting me to "set" the shoulder of her pet rabbit after it had been broken.—District Game Protector L. C. Yahner, Franklin.



CONSERVATION NEWS



By Ted Godshall

Commission Discourages Waterfowl "Sky-Busting"



PGC Photo by CIA Wes Bower

THE MOST SUCCESSFUL waterfowl hunters are those who wait until certain their targets are in range and then center them with heavy loads of shot.

PENNSYLVANIA waterfowl hunters are being encouraged by the Game Commission to be more selective in their shooting habits this year.

In the past, many hunters tended to fire at waterfowl well beyond gun range. "Sky-busting" is the term applied to the practice by sportsmen and conservationists.

An experienced waterfowl shooter knows that the maximum effective killing range for a good 12-gauge shotgun that is tightly choked and loaded with magnum shells in the hands of an expert waterfowl gunner is per-

haps some 50 to 60 yards. Beyond that, everything is left to chance.

But not all waterfowl shooters are thoroughly experienced, not all shotguns used are good, tightly-choked 12 gauges, not all shells are powerful magnums, not all waterfowl gunners are experts, and circumstances are seldom ideal. Each of these factors detracts from the maximum effective killing range.

Actually, most sportsmen should confine their waterfowl shooting to no more than the 40-yard range. Beyond this, most birds that are hit are only crippled and lost.

In addition, many hunters don't know how well their shotguns perform. At a given range, a particular gun with a particular choke may give a rather dense, evenly-distributed pattern with a particular load of No. 6 shot, say, but may produce a ragged, uneven pattern full of holes with a particular load of No. 4 shot.

A hunter should pattern each of his guns with all loads that he wants to use in the field in order to know how each performs. Some patterns may be so uneven that certain loads should not be used in his guns for hunting.

Most sportsmen sight in rifles before a hunting season, but most fail to understand that it is just as essential to pattern a shotgun.

But by far the most important error usually made by waterfowl hunters is range estimation. Very few hunters can accurately estimate whether their target is 40 or 50 yards away, even on level ground. Judging distance over water is much more difficult and

generally underestimated, while accurately guessing how high waterfowl are flying is a feat mastered by only a few.

The difference between 40 yards and 50 yards can be the difference between harvesting a bird and a crippling shot, or a complete miss.

A hunter determines how much to lead a bird by the flying speed of his target and the distance between himself and the bird. Here again, failure to accurately judge distance can mean the difference between a solid hit and a near miss.

Life-size waterfowl decoys can be a big aid to the sportsman who wants to practice range estimation. Setting up mallard decoys at distances of 40, 50 and 60 yards, and closely observing the size of the decoys on numerous occasions, helps a hunter become familiar with the appearance of these ducks at those distances.

If a hunter shoots from a blind over decoys, he might try placing the farthest decoy from the blind a measured 50 yards. Then any waterfowl beyond the farthest decoy would be out of range; any birds closer would be within range.

Range estimation should be practiced under all weather and light conditions, since the best waterfowl hunting often comes at daybreak on rainy, even foggy, days.

And there are differences between requirements for taking various waterfowl species. A wood duck, for example, is much easier to drop at 60 yards than a Canada goose.

As a conservation and sporting measure, hunters should make certain of their shots before pulling the trigger and refrain from "sky-busting." Otherwise, they'll only become frustrated and mess up their buddies' hunting pleasure.

Book Review . . .

Camping in Comfort

It seems as if everyone is going camping nowadays—and most of them don't really know how. Experience can teach anyone how to be comfortable in any season, latitude or weather, but it's a lot simpler and less expensive to benefit from the knowledge of experts, such as Norm and Sil Strung, who have spent many seasons under canvas and here transfer their knowledge to the printed page. This is a highly practical book. It has little about the beauty of mists on the mountains, but a lot about how to keep moisture out of your sleeping bag, how to make water safe for drinking, how to build a safe campfire, and countless similar things which all campers must know if they're to enjoy the sport enough to try it more than once. (*Camping in Comfort* by Norman and Sil Strung, J. P. Lippincott, East Washington Square, Philadelphia, Pa. 19105, 1971. 263 pp., illustrated, \$6.95.)

Do You Want to Become a Game Protector?

Applications now are being accepted by the Civil Service Commission for the position of Game Conservation Officer (District Game Protector). Interested individuals may obtain the examination announcement and application by contacting the State Civil Service Commission office in Harrisburg, Pittsburgh or Philadelphia, or from any of the Game Commission's six field offices. Please be certain you meet the requirements listed in the announcement before applying. The examination program will include written and oral tests, physical examination, and a character investigation. The Pennsylvania Game Commission is an equal opportunity employer.



ALBERT R. BACHMAN, of Sinking Spring, land acquisition officer headquartered in Harrisburg, retired in July after 35 years' service with the Game Commission.

Letters . . .

It has always been GAME NEWS policy to answer each letter which comes in to the editorial office. However, following the publication of Mrs. Alice Herrington's letter to me (see page 1, August GAME NEWS), so much mail came in—almost all of it carbons of letters to Mrs. Herrington, but usually with a covering letter—that it is impossible for me to answer each letter individually. Therefore, I am taking this method of acknowledging their receipt. I want to thank everyone who took time to explain to Mrs. Herrington how misinformed or in error she was when she described all hunters as "paranoid . . . miserable cowards." I wish we had space to print all the letters—practically every one was a thoughtful, courteous explanation of the hunter's viewpoint—but unfortunately we do not. At any rate, we can hope that they had some effect upon her viewpoint.—Bob Bell

Don't Hunt on Medial Strips of Highways

The Pennsylvania Game Commission and the Pennsylvania State Police are quite concerned over the possibilities of accidents to persons and vehicles as a result of hunting on medial strips on interstate highways.

Dangerous conditions result from game driven onto the traveled portion of the highway, gunfire endangering occupants of vehicles and hunters crossing the highway. Parking along interstate highways is illegal except in emergencies.

Game Commission officials urge Pennsylvania's sportsmen not to hunt on these medial strips.

Non-Resident Hunting License Fee Now \$40.35

The fee for nonresident and alien hunting licenses in Pennsylvania has been increased to \$40.35. Act No. 67, signed by Governor Milton J. Shapp on July 30, became effective immediately and established the fee for both nonresident and alien hunting licenses at \$40.35. The old fee was \$25.35. The new fee will be charged for all 1971-72 nonresident and alien hunting licenses.

The first hunting license established in the state was for nonresidents, starting in 1901 at a fee of \$10. The fee was increased to \$15 in 1923, to \$20 in 1949, and to \$25.35 in 1963. Although the Game Commission has asked the Legislature to increase the fees charged for resident hunting licenses, there has been no action on the request, and resident hunting license fees for 1971-72 will be unchanged from last year.

1971 PENNSYLVANIA OPEN SEASONS FOR WATERFOWL AND OTHER MIGRATORY GAME BIRDS UNDER FEDERAL AND STATE REGULATIONS

Species	Open Seasons First Day	Last Day	Daily Bag Limits	Maximum Possession Limits	Shooting Hours
DOVES	Sept. 1	Nov. 9	12	24	12 o'clock noon, prevailing time, to sunset.
†RAILS (Sora and Virginia)	Sept. 1	Nov. 9	25††	25††	One-half hour before sunrise to sunset (except on October 30 when the opening hour will be 9 a.m.)
GALLINULES	Sept. 1	Nov. 9	15	30	
WILSON'S or JACKSNIPES	Oct. 11	Dec. 14	8	16	
WOODCOCK	Oct. 16	Dec. 18	5	10	
†NO OPEN SEASON on other species of rails.					
††Singly or in the aggregate of species.					

DUCKS	Oct. 9	Dec. 7	3*	6*	One-half hour before sunrise to sunset in all areas of the state other than Controlled Shooting Sections of Pymatuning Waterfowl Area. Hours for Controlled Shooting Sections at Pymatuning: one-half hour before sunrise to 12 noon (prevailing time) on Monday, Wednesday, Friday and Saturday beginning October 10. EXCEPTION—No hunting anywhere in Pennsylvania before 9 a.m. on October 30.
COOTS	Oct. 9	Dec. 7	15	30	
MERCANSERS	Oct. 9	Dec. 7	5**	10**	
GEESE	Oct. 1***	Dec. 9	3****	6	
BRANT	Oct. 1	Dec. 9	6	12	

EXCEPTIONS: • Daily bag limit of 3 ducks may not include more than: 2 wood ducks; 1 canvasback or 1 redhead; 1 black duck. Maximum possession limit may not include more than: 2 wood ducks; 1 canvasback or 1 redhead; 2 black ducks.
 ** Not more than 1 hooded merganser daily, or 2 in possession.
 *** Crawford and Erie Counties, including Pymatuning Waterfowl Area—October 9.
 **** Daily bag limit of 1 goose in Crawford and Lebanon Counties, on the Susquehanna River between the Clarks Ferry Bridge in Dauphin County and the confluence of the north and west branches of the river in Northumberland County, and in all of Lancaster County except on the Susquehanna River.
 Bonus scap: restricted to waters of Lake Erie and Presque Isle Bay, October 9–December 8, daily bag limit of 2 and possession limit of 4 in addition to above duck daily bag and possession limits.

ON THE OPENING DAY OF SMALL GAME SEASON, SATURDAY, OCTOBER 30, 1971, IT IS UNLAWFUL TO HUNT ANY WILD BIRD OR ANIMAL, INCLUDING MIGRATORY GAME, ANYWHERE IN PENNSYLVANIA PRIOR TO 9 A.M.
 (NO OPEN SEASON—BLUE GEESE, SNOW GEESE, SWANS, NO SUNDAY HUNTING.)

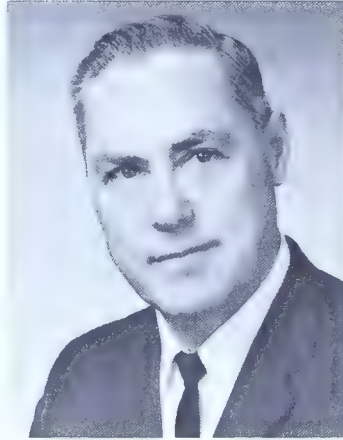
MIGRATORY BIRD HUNTING METHODS—Permitted: Dogs; artificial decoys; longbow and arrow; shotgun not larger than 10 gauge and incapable of holding more than 3 shells; bird calls except recorded or electrically amplified calls or sounds or recorded or electrically amplified imitations of bird calls or sounds; blinds; floating craft (except sinkbox) including those propelled by motor, sail and wind, or both, when the motor of the craft has been completely shut off and/or the sails furled, as the case may be, its progress therefrom has ceased, and it is drifting, beached, moored, resting at anchor or is being propelled by paddle, oars or pole, or if the craft is used solely as a means of picking up dead or injured birds. Prohibited: Trap, snare, net, crossbow, rifle, pistol, swivel gun or machinegun; shotguns capable of holding more than three shells unless gun is plugged to 3-shot capacity so that plug cannot be removed without disassembling gun; sinkbox, motor-driven conveyance, motor vehicle or aircraft; shooting from motorboat or craft under power; livestock used as a blind or means of concealment; live decoys; recorded or electrically amplified bird calls or sounds or imitations thereof; motor-driven land, water or air conveyance or sailboat used for the purpose of or resulting in concentrating, driving, rallying or stirring up migratory birds or waterfowl; salt or bait. No person may possess or transport more than the daily bag limit or aggregate daily bag limit, whichever applies, of migratory game birds, tagged or not tagged, at or between place where taken and either (1) his automobile or principal means of land transportation; or (2) his personal abode or temporary or transient place of lodging; or (3) a commercial preservation facility; or (4) post office or common carrier facility, whichever one he arrives at first.
FEDERAL STAMP FOR MIGRATORY BIRD HUNTING—No person who has attained the age of 16 years shall take any migratory waterfowl (brant, ducks, geese) unless at the time of such taking he has on his person an unexpired Federal Migratory Bird Hunting Stamp (duck stamp), validated by his signature written across the face of the stamp in ink. A person who has not reached his 16th birthday does not have to have a stamp. This stamp is not required to hunt doves, rails, gallinules, woodcock, or Wilson's or jacksnipe. Federal Migratory Bird Stamp available at U. S. Post Offices.
NOTE: One fully feathered wing or the head must remain attached to each migratory bird (except doves) while being transported.

25-Year Club

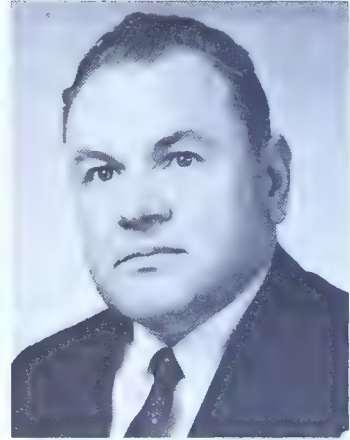
Pennsylvania Game Commission personnel have compiled an enviable record among public and conservation agencies for longevity of service. Few organizations in any area of endeavor can boast so many dedicated employees. The most recent PGC employees to complete 25 years of service are shown on these two pages.



R. L. Shenk
*Land Management Asst.
Harrisburg, Pa.*



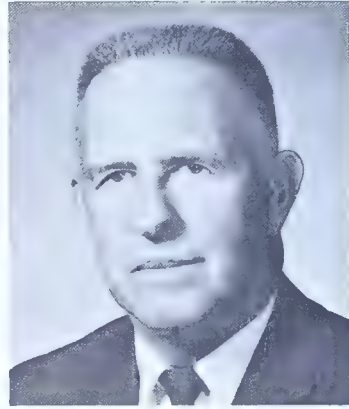
D. S. McPeck, Jr.
*District Game Protector
Northeast Division*



N. J. Molski
*Division Supervisor
Northeast Division*



Ludwina Runta
*Clerk Stenographer
Northeast Division*



E. M. Borger
*Land Manager
Northwest Division*

E. J. Fasching
*District Game Protector
Southeast Division*

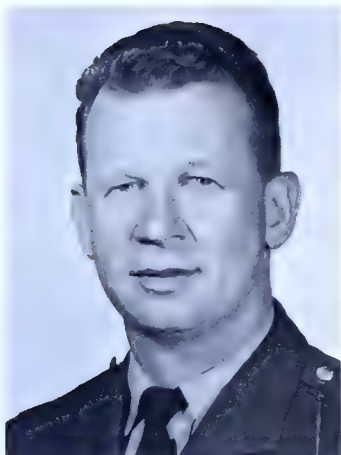


D. W. Heacox
*Land Manager
Southwest Division*



N. L. Erickson
*District Game Protector
Northcentral Division*





E. W. Campbell
Law Enforcement Asst.
Northcentral Division



G. W. Cyphert
Pittman-Robertson Area Leader
Southeast Division



S. A. Kish
Conservation Information Asst.
Northeast Division



T. W. Meehan
District Game Protector
Northeast Division



C. E. Jarrett
District Game Protector
Southcentral Division



Dorothy Bair
Clerk, Purchasing Section
Harrisburg, Pa.



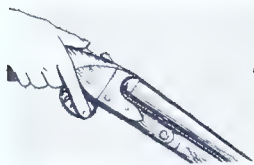
G. A. Miller
Game Propagator
Southeast Division



C. R. Kinley
Land Management Asst.
Harrisburg, Pa.



C. M. Stanis
Land Manager
Northeast Division



HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator



PGC Photo by LEA Bob Myers

THIS GROUP OF YOUNGSTERS is the most recent to benefit from the work of the Lehighton Sportsmen's Association.

A Community Service in Lehighton

FOR 40 YEARS, the Lehighton Sportsmen's Association has been teaching conservation practices and safe gun handling, and it is fully expected that the effort will continue for the next 40 years to come, for sons are following fathers in continuing the program. All these years of dedication and work would present a tremendous contribution to any community. The one benefitting most from this organization is Lehighton, Pa.

Much of the success of this organization is due to the wives of members who have served important functions in awards programs, banquets and, in general, all phases which required hard workers. Another important factor has been the consideration of

youth activities through all these years.

The Lehighton Sportsmen's Association was presenting hunter safety training nine years before it became compulsory for all first time hunters under 16 in Pennsylvania. In addition to the basic safety training, shooting has been one of the important activities offered by the club. The primary interest is rifle shooting. All first-year shooters—approximately 60 each year—take this training. In addition to rifle shooting, field training and shotgun shooting are provided to hunter safety students. The NRA junior rifle course is open to shooters 12 to 19 years of age. This program was initiated nine years ago with approximately 10 shoot-

ers and has developed into an annual 10-week course with 100 shooters. Some 30,000 rounds of 22-caliber ammunition have been expended in the program. All students become proficient shooters and safe gun handlers. Some become experts, as shown by the fact that one former student is now on the United States naval rifle team. The funds for rifles and ammunition came from the collection and sale of old newspapers, rifles, etc., which shows the ingenuity of the club members and their willingness to work.

Also highly important to the success of the program are those who do the actual instructing including the Schlechts, who have made it a family affair, Raymond Doll, Fred Merluzzi and son Fred, Jr., and Herman Norbert. These people have no "let George do it" attitude. When there's a job that needs doing, they're there, ready to get at it.

The awards night with its banquet brings out the full 300 members of the Lehigh Sportsmen's Association and Recreation Commission, plus the 60-some new shooters and their parents—a sizable percentage of the community.

One police officer and hunter safety instructor recently commented that the hunter safety and shooting programs have created a highly worthwhile byproduct—a decrease in juvenile delinquency. Calls on promiscuous shooting and plinking are far fewer now.

Each year interest in the program



PGC Photo by LEA Bob Myers

INSTRUCTORS WHO PUT ON hunter safety programs: Ervin Schlecht, Jr., Mr. and Mrs. Ervin Schlecht, Sr., George Hinkle; back row, Fred Merluzzi, Fred Merluzzi, Jr., Norbert Herman and Tyler Schlecht.

increases, with more parents participating in the hunter safety classes. This has caused an increased work load on instructors and an overloading of facilities. But the Lehigh club isn't backing away from the demand it created. Rather, they're solving this problem by expanding their program and enlarging the rifle range. Their approach is certainly one that many communities could copy.

Trapping Booklet Again Available

"Pennsylvania Trapping and Predator Control Methods," by Paul L. Faylor, PGC Wildlife Conservation Specialist, again is available. Now in its sixth edition, this highly popular booklet has been completely revised and lengthened to 116 pages. Besides detailed information on proven trapping methods for fox, beaver, mink, muskrat, weasel, raccoon, skunk, and opossum, it also gives information on the care and handling of furs, making bait and lures, laws pertaining to trapping, the best methods of hunting and calling foxes, crows and great horned owls, preserving skins, natural history facts, and much other worthwhile information. Order from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120. Price 50c delivered.

HEARTWORM DISEASE IN DOGS

By R. Lee Pyle, B.S., V.M.D.
School of Veterinary Medicine
University of Pennsylvania



THE OPENED RIGHT side of the heart of a dog which died from heartworms. Some of these worms attain a length of 10 inches.

HEARTWORM (*Dirofilaria immitis*) infestation in the dog is a disease in which large worms are located in the right side of the heart and the lung. Depending on the number of worms, temporary and/or permanent injury to the heart and lung can occur. In some cases, the injury is so severe that it results in death of the dog. Serious disease need not occur if the dog owner has a basic appreciation of the problem.

Heartworm disease is widespread and has been reported from many countries around the world. In Vietnam, the worms are a common problem in the sentry dogs used by our troops. Until more recently, the disease in this country was seen almost exclusively in the Southern states. It was particularly common along the southern Atlantic and Gulf coasts. Although heartworm disease continues to be a major problem in the South, it

appears to be spreading into more northern areas of the country, including Pennsylvania. The most likely explanation of the spread is the fact that dogs are transported around the country for such purposes as breeding and showing.

Spread Unknown

The extent of the spread in Pennsylvania is not precisely known, since a detailed study has not been conducted. However, the disease is seen commonly in the southeastern part of the state. Cases also have been reported in the Pittsburgh and Harrisburg areas. Information concerning the disease in other parts of the state is not available. For details about the disease in any specific area, it is advisable to contact a local veterinarian.

The dog serves as the main host for the worms although rare cases have been reported in the cat, fox, and wolf. The disease cannot be passed directly from one dog to another. It is necessary that a mosquito bites first the infested dog and then the non-infested dog. To better understand how the worms are transmitted, we will begin at one point in the life cycle and trace the cycle one revolution.

First, we start with an infested dog that has both male and female adult worms in its heart. The male and female worms mate to produce microscopic young called microfilariae which circulate freely in the blood. Next, a mosquito bites the dog and withdraws a small amount of blood containing microfilariae. Once inside the mosquito, the microfilariae undergo a development process that takes anywhere from two to three weeks. Following the development

period, the mosquito is capable of infecting other dogs.

In the second phase, the mosquito carrying the larvae (microfilariae) bites a heartworm-free dog and deposits the larvae under the dog's skin. At this stage, the larvae are only 0.04" long. They travel under the skin for a short distance and eventually burrow into the wall of a vein. The larvae then migrate up the wall of the vein until they reach the heart. Upon arriving at the heart, they leave the vein and take up residence inside the heart. It takes about three to four months from the time the mosquito deposits the larvae under the skin until they reach the heart. During the next two months, the larvae grow to adult size of about 10 inches. The adults mate to produce microfilariae that circulate in the bloodstream, waiting to be picked up by a mosquito. Hence, we have completed one full revolution of the life cycle and are back where we started.

Adults Responsible

The adult worms and not the microfilariae are responsible for the various signs of illness seen with the disease. Usually, the first signs originate from damage to the lung by the worms. Initially, the dog begins to cough and is short of breath when exercising. If the infestation is severe, the dog may cough up blood or faint. Other less specific signs include weight loss, dull hair coat, and a poor appetite. Additional signs appear when the heart fails to function as an efficient pump and the blood circulates poorly. This results in enlargement of the liver and swelling of the abdomen with fluid. Once this last stage is reached, the outlook for the dog's future is bleak.

The severity of the disease is related to the number of worms present. For example, if a dog has only three or four worms, he may never show any signs of the disease, whereas 30 to 40 worms will surely result in outward illness. As many as 150 worms

have been removed from one dog.

The key to the control of this disease varies somewhat, depending on the environment of each dog. If the dog is a house pet and has little exposure to mosquitoes or lives in an area where heartworms do not exist, then there is little reason to have him checked. However, if this same dog is taken to a known heartworm area for breeding, hunting, etc., he should be checked about six to eight months later. Hunting dogs in heartworm areas have a higher mosquito exposure than house pets, and as a result should be checked about every six months. Usually one check is done in September before the hunting season begins and the other one is carried out in February or March.

The method of detecting the worms is a relatively easy procedure that can be performed by any veterinarian. He simply removes a small amount of blood from the dog and smears the blood on a slide. He then looks at the blood under a microscope to deter-

LIFE HISTORY OF THE HEARTWORM OF DOGS

Dirofilaria immitis

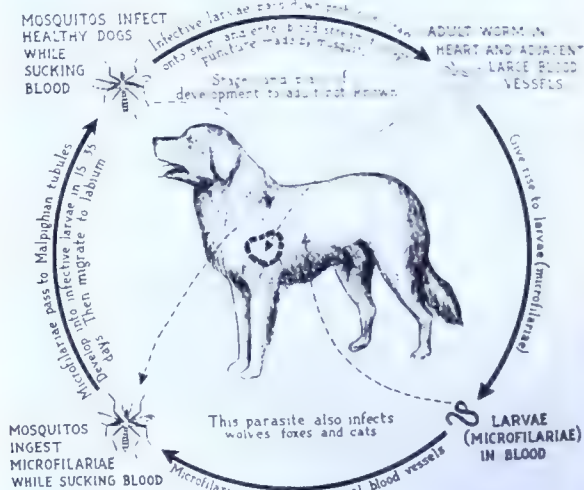


DIAGRAM COURTESY OF University of Illinois, Agricultural Experiment Station, in cooperation with the College of Veterinary Medicine; from "Microscopic Diagnosis of Parasitism in Domestic Animals," Circular 698, 1952.

mine if any microfilariae are present. Sometimes special staining and examination must be done before definite identification can be made.

A dog that is found to have heartworms can usually be successfully treated providing the disease is not far advanced. In the first phase of treatment, a special arsenic preparation is used to kill the adult worms. About four weeks later, another drug is given to kill the microfilariae in the bloodstream. The dog should be completely rested for at least two months

following treatment for heartworms.

Recently, a drug has been developed which is highly effective in preventing the maturation of larvae that are deposited under a dog's skin by a mosquito. It is given by mouth every day beginning one month before and ending two months after the mosquito season. The use of the drug is rapidly becoming the recommended procedure for dogs considered to be at high risk (e.g., hunting dogs) for heartworm disease. In other words, "an ounce of prevention is worth a pound of cure."

Woodcock Hunters Note

Are you a woodcock hunter? The Pennsylvania Game Commission asks sportsmen to assist the Pennsylvania Cooperative Wildlife Research Unit in a state-wide wing collection to gain further information about woodcock in Pennsylvania. If you will be hunting woodcock this fall, send your name and address to the Pennsylvania Cooperative Wildlife Research Unit, 113c Ferguson Building, University Park, Pa. 16802.

Hunters Required to Tag Turkeys

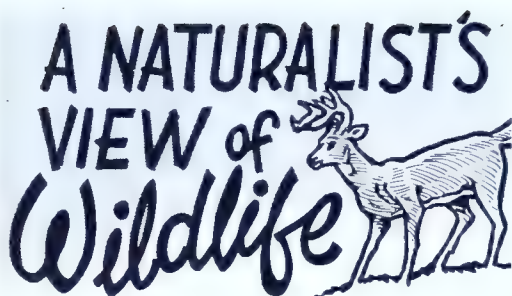
Successful Pennsylvania turkey hunters are reminded they must complete and attach the turkey tag supplied with their hunting license to the bird. Under the Game Law, each person killing a wild turkey shall, immediately after removing the entrails but in any event within one hour, and before transporting or removing the bird in any manner from where it was killed, detach the wild turkey tag from the license and attach it to the turkey. Failure to tag the turkey subjects the person to a fine.

Booklets on Pennsylvania's Big Game

Hunters interested in Pennsylvania's big game are reminded that two booklets on this subject are available from the Pennsylvania Game Commission. "Pennsylvania Big Game Records" is a 96-page publication which gives extensive information on the scores of deer and bear measured here since this state began keeping records according to the Boone and Crockett method. It also contains the true accounts describing how many of these trophies were taken. Price, \$1.00 delivered. "The White-Tailed Deer in Pennsylvania," written by Stan Forbes and other Game Commission wildlife biologists, covers all phases of the whitetail's life as well as a listing of all important laws affecting this animal in Pennsylvania. This 40-page booklet is 50 cents, delivered. Both may be ordered from the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg, Pa. 17120.

THERE IS JUST no doubt about it, the grass is always greener on the other side of the fence. We always think that what someone else has is better; we want what we can't get. Events in other places seem exciting. There must be a formula that equates distance with interest. Something occurs half way around the world and it stimulates our interest because it seems exotic. A similar event in our backyard is ignored, if noticed in the first place. You probably are wondering what this preamble has to do with gray squirrels, what it's leading up to.

Well, almost everyone knows that in the Arctic there's a small, brown



tions, the gray squirrel in our section of the country has two phases in a 10-year cycle. Every year ending in the number three is a small population peak year, and every year ending in

The Gray Squirrel

Sciurus carolinensis

By Leonard Lee Rue, III

rodent called a lemming. And anyone who has ever heard about a lemming *knows* that these foolish little creatures commit suicide by throwing themselves into the ocean where they drown. What most people do not know is that these famed lemming outbreaks occur every three to four years and that the lemmings are not knowingly committing suicide. The lemming populations build up so rapidly that in some areas the emigration is triggered by a lack of food; it is move or starve. Many times the stress brought on by too many lemmings living too closely together apparently triggers the emigration. Recent studies have discovered a blood condition in the lemmings whereby the steroid hormones increase 30 times over normal at the time of these movements. The final answer or solution has still to be discovered, but it's all pretty heady stuff. What most people do not know is that our own gray squirrel population tends to be cyclic and subject to mass migrations.

According to my personal observa-

the number eight discloses hordes of squirrels, a high peak and a tremendous crash by spring. My personal records go back over the past three crash cycles.

The gray squirrel is an underharvested game animal. Very few hunters go out specifically for squirrel, and those taken are usually bagged while hunting other species. Dedicated squirrel hunters realize that at times the woods seem to be full of them and at other times one can't be found. Such conditions mesh with the cycle peaks I have just described.

During the latest peak, 1968, I had as many as 28 gray squirrels coming into my bird feeders at one time. The yard was full of them and the amount of food they consumed was fantastic. As I was interested in obtaining more photographs of the squirrels, I encouraged them. I got some of the photographs I wanted. That is, I was able to take some in the fall but not as the winter wore on because, of the squirrels that were left by spring, none were worth photographing.



At the beginning of fall the squirrels were sleek, fully furred and fat. The word must have gone out that pickings were pretty good at the Rue home, because more and more squirrels soon moved in. But then squirrels were moving all over anyhow. Large enough numbers were seen moving and swimming across rivers, an unusual event, that even the newspapers made note of it, but almost no one mentioned it as a cyclic condition.

As the winter wore on the number of squirrels decreased and in January those seen had large bloody patches of bare skin showing. The squirrels would feed awhile and then scratch awhile, and eventually there was more scratching than feeding. Many became emaciated even though food was still plentiful, which indicates you cannot stockpile wildlife. When too many of any species of wildlife accumulates in an area, Nature wipes it out by one of three methods—starvation, disease or stress.

These squirrels were being wiped out by ectoparasites called the scabies mite, which cause mange. Not only were the squirrels being debilitated by the blood sucking parasites, but the scratching the squirrels did to get relief wore off their hair in large patches, allowing a tremendous loss of body heat. Weakened, the squirrels had trouble climbing and later they even had trouble walking. In such a condition they were easy prey for any predator. By late spring the few squirrels that survived had a regrowth of hair, no competition for food or for nesting sites, and the stage was set for another population explosion. Nature abhors a vacuum as much as it does a surplus.

I have already stated that the gray squirrel is under-harvested and it is, but even increased hunting pressure would have little effect on the total population and it would in no way upset the cycle. And this despite the fact that in good years Pennsylvania hunters shoot over one million squirrels.

I have never seen a study or a breakdown of the amount of time that a gray squirrel spends in a tree versus the time it spends on the ground. The tree time has to come out ahead because this squirrel cannot survive without trees. Trees represent food, drink and shelter.

I know of no native nut that is not utilized as food by the gray squirrel. The white-tailed deer and the gray squirrel are in direct competition for the fallen acorns, particularly the favored white oak acorn. The squirrel is often impatient for the nuts to ripen and it will cut them down green. Unlike the red squirrel, which will hoard the nuts in a cache, the gray squirrel buries each nut individually beneath the forest duff. Fights between red and gray squirrels result from invaded territory or pilfered stores.

How Find Buried Food?

I have sat in on many sessions where the main topic was how squirrels relocate buried nuts when they want to eat them. My own observations indicate that a squirrel locates them by scent. It could not possibly remember where it buried each one of the thousands of nuts gathered in the fall, and when there is a foot of snow on the ground it certainly can't see the nut or even the disturbed area containing the nut. On countless occasions I have seen where a squirrel hopped along on top of the snow, stopped, dug down through the snow and leaves and recovered a nut. Proof of success was the discarded nut shell lying among the scattered leaves on top of the snow. Scent has to be the answer. Every buried nut that a squirrel forgets to dig up is a potential tree. In addition to nuts, the squirrels feed upon seeds, grain—especially corn—berries, fruit, mushrooms, and occasionally on eggs and baby birds.

When the mercury starts to shoot up in the springtime, it pulls the sap of the maple trees along with it. At such times I have often seen gray squirrels bite into the branches of the



IT IS COMMONLY BELIEVED that gray squirrels and red squirrels often fight. The author has never seen such a fight, despite much time in the squirrel woods, though chases and bluffing are common.

maple to make it "bleed." At night when the temperature dropped, the sap froze into maple icicles. In the morning before the sun melted them, the squirrels climbed about the trees and ate these icicles.

The preferred home for the gray squirrel is a cavity in a huge, old tree. This is what the squirrel prefers, but it may not be what it is able to find. Or if it does find such a hole, there is a good chance that such a prized cavity is already occupied by a larger and older squirrel. (If these cavities are in a living tree, the tree will try to shut the mouth of the cavity by growing increasing layers of bark over the opening. The strong incisor teeth of all rodents are designed for cutting and gnawing, and the squirrel easily keeps the cavity at the desired size.) Lacking a cavity the squirrel

will construct a leaf nest. Leaf nests that are loosely put together are used in the summer, while those for winter are tightly packed. After the squirrel enters such a nest it places a plug of leaves in the opening to keep out the frigid breezes. Leaf nests are also used by squirrels that have a cavity nest. Leaf nests are much cooler in summer and the cavity nest will become infested with body lice and mites from constant usage.

Seldom Fight

Because the male gray squirrel often shows no signs of testicles during the fall hunting season, it is commonly thought he has been castrated in a fight with the red squirrel. Actually I have never seen a fight between a red and a gray squirrel. I've seen lots of chases and bluffing but never any actual fighting, and I have seen the gray chase the red almost as often as I have seen the red chase the gray. It is usually just a case of who invades whose territory. Except during the breeding season, the testicles of most rodents are shrunken and withdrawn into the body.

Breeding takes place during the latter part of January and in February. The gestation period is about 44 days and the three to six young squirrels are born naked and with their eyes and ears sealed shut. They are about $4\frac{1}{2}$ inches in length and weigh about one-half ounce. Their body starts to fur out in a week's time. In a month their ears are opened and a week later their eyes.

Long before their eyes have opened the young squirrels are climbing about inside the den. As soon as they can see they start to climb out. It is also about this time that the mother begins to bring them solid food to eat and by three months of age the young are weaned.

In the northern part of this squirrel's range, the female usually produces two litters. There may be three litters in the deep South.

When full grown, a gray squirrel

weighs one to 1½ pounds and measures about 18 inches in length, of which almost half is its beautifully plumed tail. The scientific name for the squirrel, *Sciurus*, comes from two Greek words which mean "an animal that sits in the shadow of its tail." Probably the most important function of the tail is to act as a balancing unit when the squirrel is climbing, racing along a limb, etc. The tail also serves somewhat as a parachute if the squirrel falls or jumps from a tree. When the squirrel sleeps, it uses its tail like a blanket. On rainy days—and squirrels seem to be especially active on drizzly days—the squirrel will sit upright with its tail held over its body like an umbrella. When the tail is weighted with water, a few flicks send the droplets flying and the tail is ready for use again.

The back and sides of the gray squirrel are a salt and pepper kind of gray; belly and throat are white. Both melanism and albinism occur frequently in this species. Occasionally these muted genes become dominant and entire areas will be populated with these off-color squirrels. The little town of Olney, Ill., has chosen the white squirrel as its emblem. From a single pair of albino squirrels, the town now has a popula-

tion of about 1000. The northern-tier counties in Pennsylvania have large populations of black squirrels.

The squirrel has five toes on each foot, although the toe corresponding to our thumb on the front foot has become atrophied and diminished with disuse. The claws of a squirrel are not retractable but the toes are jointed so that the claws do not become dulled by touching the ground when the squirrel walks. Sharp claws are a must because the squirrel climbs to escape most of its enemies.

Tree-climbing snakes are probably the squirrel's greatest enemy. Against a large black snake an adult squirrel can do little and the young squirrels can only serve as dinner. Hawks and owls probably rank next, with the red-tailed hawk taking the heaviest toll. Bobcats, foxes, weasels, raccoons, and dogs and cats will all add the squirrel to their menu when possible.

Despite the odds against it, the gray squirrel, given suitable habitat, can more than hold its own. The squirrel is very adaptable and when its habitat is not ideal, it changes its life style to fit the need. This adaptability even allows the squirrel to live in the cities with man, and I'm not sure that living in cities is good for either the squirrel or man—but that's adaptability.

\$220,000 in Game Fund for Local Governmental Units

More than \$220,000 will be distributed to county treasurers and political subdivisions by the Pennsylvania Game Commission in 1971. The payments to local units will be made in lieu of taxes for State Game Lands located throughout the state. There are more than 1,100,000 acres of Game Lands in Pennsylvania. The Game Commission provides a total of 20 cents for each acre of Game Lands to local governmental units. Of the 20 cents per acre, eight cents is forwarded to the county, another eight cents is presented to the local school district, and the remaining four cents goes to the township board of road supervisors. Funds for the payments are made available through the sale of Pennsylvania hunting licenses.

Every Other Year

Female black bears produce from one to four cubs every two years.

WHITE-TAILED DEER!

By Keith C. Schuyler

Photos From the Author



A PERFECT SHOT at a doe—but would a bowman pass up a chance at that big buck? That shot's not easy.

IN TRYING TO come up with copy for October, I rummaged around in my mind and in my files for something appropriate to the month. It had to be something about deer hunting. Obviously. We have covered a lot of ground here in the past eight years on the how to, size of tackle, times to hunt, etc. But October, or at least most of it, is deer season for bow hunters. The October column should be about deer.

So, this is about deer.

If you are as steamed up about the opening of the bow hunting season as

I am, you are probably quite aware that it actually opens in September on Saturday, the 25th. There is no need to get all worked up over the first day. In the first place, some clo will probably bumble into your territory and bounce out the deer you planned to shoot anyway. Or a couple of hikers or a Boy Scout troop may decide that the hollow in which your favorite buck resides is an ideal place for a campout for the weekend. Furthermore, it's going to be hot, according to my calendar. The first half of our hunting day won't be worth much after nine o'clock except for those related to Daniel Boone or with 13 percent Indian blood running through their veins.

So what's the rush? If you down your deer in those first few hours, you are finished until the opening of next year's deer season. Isn't it sort of nuts to get up early on the 25th and galloping out into the mountains where there will be about 150,000 other archers stumbling around? We are still on Daylight Saving Time, you know, and the tendency is to stay up too late. So, neither of us will probably get enough sleep.

You'll note my use of the word *u*. Because I wouldn't miss the opening either, for anything short of an enforced trip to the Happy Hunting Grounds!

Okay, says you, but suppose *you* are lucky enough to down a deer on the opener. What are you going to do with all that extra time there is to hunt? The regular bow hunting season runs right up through October 2. You will miss four more full days of hunting in September, 25 full hunting days in October, five days in December.

ber, and 13 days in January of 1972.

Well, now, that was kind of a loaded question you tossed at me. You see, usually my hunting is so marginal and my shooting so likewise that this question has never really been a problem in most years. Back when I was doing a bit better, I always had my boys to drive for and to take pictures of later if I scored early in the season. But now they are all pretty well grown up and big enough to do their own hunting without my help.

Well, for a number of years I've been wanting to get in on some of the top bass and pike fishing that is available in October. And during the cold, snowy months, I can just sit home and enjoy myself like other sensible people. There are small game species to hunt starting October 16, right on through the extra seasons, if I can't sit still.

Besides, there are other states contiguous to Pennsylvania that have some fair deer hunting. I always try to be neighborly during the hunting season, if possible.

However, it is my turn to ask questions again. Most hunters are happy to take a deer with the bow at any time during the seasons provided. They don't worry about what they are going to do with their time since their wives probably have it all mapped out for them anyway. But let's take a look at the extra odds that these long hunting seasons for the archer do provide.

Almost everybody can get out at least one whole day a week. This means there will be roughly seven full weeks to hunt and this provides seven more opportunities as a *minimum* after the opener. This extra day off is usually a Saturday, according to



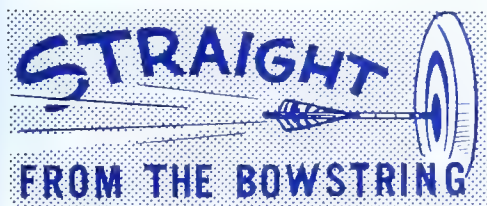
THAT BUCK IS a dandy—but he sees you even better than you see him. Do you wait for a better shot or take your chances?

the kill record of archers over past years. All this hunting time should make a fellow think a little bit about just what approach he wants to take to this business of shooting a deer with a bow and arrow.

Good Record

Generally speaking, the record of bow hunters is good across the state. This is not guess work. It will be sustained by most if not all of our Game Protectors. Sure, we have stinkers in our bunch just like any other group, but the average deportment of archers is on the high side.

With all this time on our hands, we can be a little more selective in our choice of shots, or in our choice of targets, than even a gun hunter. He has only two weeks of buck season and sometimes one or two days of an antlerless deer season each year in which to score. If he is a one-day-a-week hunter, he has fewer chances than the average archer in the total picture. Of course, he has a little easier going since his hunting comes when visibility is good and there are a million or so hunters out there driving for him. But statistics prove that a substantial percentage of him will be out there hunting alongside us in



the archery season. Many sportsmen today are gunners and archers in turn. This is just one more reason why we should take time to think about our October hunting.

The primary purpose in deer hunting with a bow is, of course, to make a good hit on the animal. The secondary consideration, but almost as important from a tactical standpoint, is to get close enough to the animal to do a proper job. One is pretty much dependent upon the other. This column doesn't hold with the characters who start flinging arrows around as soon as they see deer hair. They are a hazard to the deer as well as to other hunters. We describe them as *hunters* reluctantly since they do more shooting than hunting.

Let's consider that word *hunter* for a moment. We usually distinguish those with the bow or with the gun as archers or gunners. Ostensibly, both are hunters. But the correct connotation of a hunter is not someone who pins on a license and just takes off into the woods for deer. Rather, the hunter is one who hunts. Within this connotation there is a separation be-

tween the gunner and the archer. The man with a gun is normally in business as soon as he sees a legal deer. Today's rifles will reach out accurately for considerable distances. If the man with a gun is skilled in its use, he might easily collect his venison at 100 yards and well beyond. Up to that distance it is rather hard to miss unless the excitement of the moment causes the *gun* to blow the shot.

Just Beginning

The archer, on the other hand, is normally only beginning his business when he sees a deer for the first time. This is more or less true whether he is simply on a stand, attempting to stalk animals, or is engaged in a group hunt. Simply seeing the animal merely increases his chances for a shot.

There are those, as mentioned before, who cut loose as soon as they see a deer, but the real bow hunter will consider every angle before attempting to release an arrow at so splendid a creature. And with all those days to hunt, he can certainly take time to be careful, to be selective, to be as humane as possible.

When to shoot? First consideration is the range. Is the archer capable of hitting a pie plate at the distance the deer is from him at the moment? Is the animal standing or moving at an angle which will permit the arrow to reach a vital organ if the hit is proper?

Unless the answer is "yes" to each of these questions, the hunter has no moral right to release an arrow at that moment.

Herein comes the real sport of hunting. If a proper shot is not possible, the hunter must have the courage to pass up a shot that he knows may be irretrievably lost. Or, he should take his chances on making a stalk on an animal that has its vitals hidden or is too far away, but not unduly alarmed.

Getting within range and in a position where a clear shot can be made is a quiet excitement that no hunter should deny himself if the opportunity arises. It may take minutes or even



IT'S A BUCK, BUT A small one. You have a lot of time left, so do you try for this one or wait and hope for a bigger one later on?

hours to set up a situation which provides a maximum chance for success. But if a score is made, the satisfaction that comes with it has no bounds. In addition, the story of the stalk can delightfully bore wife, friends, relatives and children for years to come.

Let's stop here for a moment. We have been talking about *any* legal deer. But there are often situations which require a moment to think out before an attempt is made. This moment, however fleeting, may be long enough to permit the quarry to escape and to resolve the question once and for all. Or the archer may stand there torn between a desire to extend his hunting privileges or to grab the chance to collect a deer on the spot.

Is the deer big enough? If it is standing alone, this sometimes poses a really tough question, and if two deer are of the same size, it is next to impossible to determine if they are suitable animals as trophies if neither has antlers. Many a hunter—with bow or gun—has walked up to a downed deer that appeared as big as a horse, but was in reality a fawn or a small yearling better for sandwiches than steaks.

One of the few ways of determining the size of a solitary animal, or some that are all about the same size, is to study the muzzle. A young deer has a short, stubby muzzle compared with the long, lean snout of a mature white-tail.

Or, suppose it is a buck. Some spike bucks are quite small, most are smaller than a mature doe.

How many times have you been in a situation where both a buck and a doe were visible, but the buck presented an almost impossible shot, while the doe stood broadside. At that instant, a decision rests upon whether or not either deer has spotted you. If so, the doe may be your only chance at the moment and for the entire season. If the animal is not alarmed or alerted, a short wait may put the buck in a more favorable position for a shot.

Or take a situation where the doe's



YES, THE CLOSER deer is a buck. But it's a small one and a sure kill isn't possible with its shoulder behind the tree. Would you try for the big doe?

position shields the buck's vital areas with her own body. Most times the neck of the buck will present a possible shot, but a poor release could cause a nonfatal wound on the doe.

Decisions, decisions.

Yet without these decisions much of the fascination in hunting would be taken away for the bow hunter. He is accustomed to being frustrated and forced to come up with logical answers where none seem possible. He may go through an entire season being beaten by the deliberate cuteness or stumbling luck of the deer themselves. Or he may have some other factor such as another hunter, the cry of a bird, a noisy squirrel, or a loud voice along the highway ruin his chances after he has done everything right himself.

The irksome part of it all is that our individual may be the best of hunters and an excellent shot with the bow. Yet he may end up season after season empty-handed even though he has full intention of taking the first

nice whitetail that comes within reasonable range.

But his day is coming. He may eventually have things all his way so that both his ability and his skill with the bow can pay off. When he does score, the price he has paid for his trophy will make it all the more important to him.

Some Do It Easily

We all know those who go out and make it look easy. We try not to be resentful of the tyro who steps into the woods for the first time and steps out dragging a deer. Nevertheless, in the long haul it will be the qualified bow hunter who gets the most out of the sport from both an esthetic and a practical standpoint. The only advice that can be offered here is that from a standpoint of safety and humaneness.

The individual decision must be made before or after that moment of truth about which we hear so much. Only the hunter, standing, kneeling or squatting within *his* bow range of a deer, can make the decision.

The dilemma of wanting to make a kill but not wanting to give up the hunting that is available in the remainder of the seasons is one that faces the veteran bow hunter at one time or another. It is important to make a clear decision so that there is no hesitation if an arrow is to be released. Any shot takes all the judgment and ability of the bowman to succeed, and to succeed properly. Once that decision is made, leave no room for regret.

Hunting with a camera is a great sport. Fishing is fine in October. There is always the small-game season to look forward to next month.

Deer. Deer! Deer? Bless 'em.

If you have been reading between the lines here, a suspicion that there is an extra message is justified. It is no secret that there are those who cannot resist the temptation to try for a second—illegal—deer. In this day, when the out-of-doors is shrinking each year as further demands are put upon it by a growing population, the need for sportsmanship becomes even more important. The successful individual no matter in what deer season or by what method he scored, has taken his share. This share is predetermined by the available supply of game relative to the number of hunters seeking it. Certainly those who sneak through the dark with an illegal extra deer cannot do so without some qualms of conscience. Or those who use a wife's or a youngster's tag must have a sense of guilt for this counterfeit claim.

It is important that you and I preserve the sport of hunting in Pennsylvania for others to enjoy it as has been our privilege. When we argue for continued and open hunting, it is important that we can do so from the firm foundation of a clear conscience and the unvarnished conviction that hunting is a sport worthy of perpetuation. If the day comes that sports and sportsmanship are no longer a part of hunting, there will be no need to have any rules, any hunting. Nature will harvest in her own grim way through starvation and disease, or commercial hunters will be hired to do the job when it is felt necessary to employ them.

These are thoughts to carry into the woods this fall. Each of us has a responsibility in determining our individual part in what hunting holds for the future.

He's One Fast Fella

The pronghorn antelope is North America's swiftest mammal. It can travel 55 miles an hour in spurts, 40 miles an hour for extended periods.



GUNSMITH AL WARDROP PREPARES to fire a shot from custom 280 Remington while George Gottschalk watches for reading on Avtron K233 chronograph.

SHOOTING ACCESSORIES

By Don Lewis

Photos by Helen Lewis

MY FIRST association with a rifle scope was a dismal failure. If memory serves me correctly, it must have been around 1935. It would only be guessing to try to give the name of the rifle or the scope. I do know it was on a 22 rifle and, back then, rifle/scope combinations were just beginning to hit the market.

The fellow who owned the outfit and I were chuck hunting and proceeded to miss every chuck we shot at plus an assortment of other targets. It finally became evident that the rifle was not shot in, even though the owner kept insisting that all rifles were sighted in when they left the factory. When we put up a paper target and shot from a makeshift rest, there was no question that the rifle was a mile off.

Later that evening, we concocted a solid rest and began shooting at

roughly 40 yards. I knew nothing about scopes and the more I turned the adjusting knobs, the more confused I became. My partner was no help and after a full box of ammo had been shot with no positive results, we gave up in disgust.

As I look back on that episode, I feel we probably had a defective scope that just wouldn't meter properly. This was common with many of the inexpensive 22 scopes of that era. The results of this failure nearly turned me against scopes for good. But one thing that I couldn't forget was how much brighter and nearer the scope showed the target compared with open sights.

One vivid fact I remember was that the instructions that came with the rifle emphatically pointed out the advantages of the scope and said it was one accessory that could not be forgot-

ten. The owner said that it was one accessory he would gladly forget. I didn't realize at the tender age of 15 that the day would come when I would be writing thousands of words advocating that the scope is one ac-



BINOCULARS ARE HIGHLY useful accessories for shooters. Shown are Bushnell and Bausch & Lomb models used by Lewis constantly.

cessory that should not be forgotten.

The rifle scope has long since passed the point when it should be considered an accessory; it's an integral part of good shooting and hunting. A high quality scope on any rifle is an asset. The target shooter was the first to take advantage of the benefits the scope had to offer, and during the last 25 years, the hunter has come to realize that the scope is not just a gadget but a positive, dependable method for placing a shot exactly, even at ranges once considered far beyond the best open sight.

I've shot literally hundreds of scopes during the past few years, and I marvel at the tremendous changes that have occurred since the first scope I used. What finer optics can be had than those of Weaver, Leupold, Bausch and Lomb, and Redfield, to name a handful. They are tough, compact scopes that can take severe punishment year after year and still perform without a flaw.

I can't help but say a few words about the relatively new Redfield "3200" target scope. I used a "3200" in 20X while doing all my benchrest firing for the 22-250 article, and the "3200" 12X for field use. The more I

used these two Redfield scopes, the more respect I had. I must admit at first I was skeptical. My idea of a varmint or target scope ran along the lines of the external mount adjustments with a recoil spring to position the scope in the mounts. When I first came in contact with the Redfield "3200"—which is of the same configuration as the conventional target scope except the "3200" has internal adjustments—I was not greatly impressed. I had the feeling that within a very short period of time problems would develop with the adjusting system, and I wasn't too enthused over having to loosen the rear ring mount to adjust the bases to the different separations of mount blocks on the rifles I was using.

During the course of firing nearly 600 rounds while testing seven models of the 22-250, plus a couple of boxes shot hunting, I gained a lot of respect for this very fine scope, and began to realize what a high quality glass it is. The 12X in the field matched the performance of the 20X on the benchrest. I've been using the 12X on my Ruger No. 1 rifle ever since. Although I had reservations about the solid mount setup, I soon learned to appreciate it.

The "3200" comes with two types of base or ring screws—small bore and large bore. The small bore screw can be used with the conventional gashed bases found on most varmint and target rifles, since it applies friction only against the base. I did find this setup hard to hold with the 22-250, and the long scope kept sliding on the bases. The bases designed for the "3200" scope are recessed for a lug and using the big bore screw with the longer shoulder that fits into the recess make



a solid mount. I have a feeling that the "3200" Redfield will adorn more and more varmint rifles.

While on the subject of optics, I recall the early days when my shooting consisted more of rifle sight-ins. Each evening and on Saturdays prior to the season I would spend considerable time at the benchrest sighting in all types and calibers of rifles. Since I was a stranger to a spotting scope, I had no alternative but to jog over to the target after each shot or two. This wasn't too bad when I was doing only one or two rifles each evening, but as business grew, the strain of running back and forth began to tell on me physically and disrupted my shooting. Several attempts to rig up a telescope and a beat-up 10X rifle scope proved futile and the purchase of a spotting scope became necessary.

Spotting Scope

In those days, the market wasn't flooded with imports as today, and financial problems forced me to settle for a used scope that wasn't much better than the homemade outfits. Still, it was better to strain my eyes after each shot looking through the old scope than it was to trot over and back. It was somewhere in the middle '50s that I finally became the proud owner of a new spotting scope. I am not the least embarrassed to admit that I never considered quality or durability at that time; I had but one desire, and that was to buy the cheapest scope available. It turned out to be a Herter five-eyepiece model on sale for something under \$50. I read all the advertising in the catalog without really believing that the scope would be any better than a lot of inexpensive imported rifle scopes that I had seen fail. But I whipped off my check and the scope soon arrived and it has served constantly and satisfactorily ever since.

Since then, I've had considerable experience with the Bausch and Lomb Zoom spotting scope in 15-60X. Benchrest and target shooters, more than



REMINGTON 40XB-BR rifle with Redfield "3200" 20X scope, Bausch & Lomb spotting scope on easily adjustable Freeland stand—a good benchrest outfit.

varmint hunters, can benefit from this particular model. I do my bench shooting mostly at night, under lights, and I welcomed the higher powers. I found myself using powers up to 50X to study the groups. Naturally, night shooting is free from the heat waves that make the higher powers difficult to use in sunlight. I mounted the B & L Zoom 60 on a Freeland All Angle Tripod. This scope stand is somewhat different than most I had used. There is no adjusting handle sticking out. Raising and lowering the scope is accomplished by a screw that pushes against a spring-loaded mechanism. This may not sound much different or any great advantage over the handle type, but I found that I could make the finest adjustments, especially on the higher powers, without jumping the scope all over the target. Another feature I liked about the Freeland Stand was its quality. It's a very rugged tripod, and with the B & L Zoom 60 spotting scope, it has to be one of the best combinations available.

Just lately, I received the Weatherby Sightmaster 20-45X Zoom scope for testing. The first thing about this out-

fit that caught my attention was its compactness. The overall length with zoom eyepiece is only 12¼" and it weighs a shade over two pounds. All I could think of when I set it up was it should make a whale of an outfit for the varmint hunter. I'll have more to say about this spotting scope after I've used it in the field for some time.

Some Features Dominate

There are always features that seem to dominate a unit, and I found several in the Weatherby Sightmaster. Besides having all the optical brightness and clarity needed for all types of use, the Sightmaster has one of the easiest focusing arrangements I've used. Merely rolling the finger across the focusing knob on top of the scope is all it takes to get a perfect focus, and the scope never moves. Since adjustment is internal, the eyepiece does not move. I also was impressed with the power window. The user sees only the power that is being used and can't be confused by a dial of numbers.

Beauty seems to be a Weatherby trademark, along with fine quality in all products, and the Sightmaster is no exception. Small, lightweight with a crackle blue finish even on the tripod, it would have to make any shooter happy to own one.

I suppose it wouldn't be fair to talk about rifle scopes and spotting scopes and not mention binoculars. Most big game hunters fail to take advantage of binoculars, but a good pair can come in handy when watching across valleys or in wide open country. Bushnell has some lightweight, compact versions that would be an asset on any big game hunt. I have in mind the Bushnell 6X Custom Compact. These binoculars will actually fit in a shirt pocket and they give good results.

Binoculars to the varmint hunter are as much a part of his equipment as his license. The big game hunter may use his binoculars occasionally, but the chuck hunter keeps his in constant use. To do this requires just the right power and a very high quality pair or else eyestrain will be the result.

Most chuck hunters have a tendency to go overboard on power, thinking 10X or 12X is best. This is just not the case. I have used both low and high power sets extensively, and I'll settle for a good pair of 7 x 35 or maybe 8 x 30 binoculars. Power has its place, but it magnifies everything including heatwaves, and a high powered set of binoculars on a bright afternoon will create a headache that no sedative will cure.

Helen has a pair of 7 x 35 Insta-

Book Review . . .

Gun Digest, 26th Edition

A highlight of the year for shooters is the appearance of the *Gun Digest*. John Amber's massive book which year after year hits all phases of the gun world with fully researched technical articles by the world's leading firearm writers. A highly interesting proposal is presented in the lead-off position, a Col. Charles Askins makes a pitch for a "Shooter's Hall of Fame"—a long overdue idea, seems to us. Other outstanding pieces are Larry Sterett's "Rifle of James Paris Lee," "Guns of World War II," a collector's article by George Wildgen, "Are Firearms Controls Effective?" by Colin Greenwood, a Chief Inspector of police in England, and Harold Davidson's "Sighting the Long Range Magnum," which should make the slide rule shooters happy. There's a lot more good stuff, including a beautiful color section, and the extensive catalog pages have been completely redone, with large photos that help a great deal. (*Gun Digest*, ed. by John T. Amber, Gun Digest Co., 540 Frontage Road Northfield, Ill. 60093, 1971. 480 pp., \$6.95.)

Focus Bushnells that she hangs onto like an insurance policy. They are remarkably bright and very easy to focus. I believe the thumb knob on the Insta-Focus is harder to put out of adjustment than the center wheel type.

Old Zeiss Binoculars

I had used a fine pair of old military Carl Zeiss 6X binoculars for years. They did lack a little in power, but I spent hours scanning the fields without any ill effects. Lately, I've been using a pair of Bausch and Lomb 8 x 30s. This binocular is light in weight and the optical quality is superb. In all fairness, I believe that these glasses are as clear as any I've ever used. B & L equipment is expensive, but just knowing there is a lifetime of hard use in such a glass should take some of the sting out of the price.

There are many binoculars on the market in all price ranges. Through the years, I've tested a lot of them. For the casual user, I would suggest practically any pair costing around \$50. On the other hand, for the hunter or bird watcher who intends to spend a great deal of time using binoculars, I have to recommend the more expensive ones. You can pay \$100—or even \$300—for binoculars, and this may seem too high, but trying to use some of the cheap ones for any length of time would soon prove my point.

Rifle scopes, spotting scopes and binoculars have been available for years, but there is one accessory that is just now coming into its own: the chronograph. I suppose most handloaders give little thought to owning one of these electronic marvels which tells you exactly how fast a bullet is traveling, I felt the same way for years. Price was naturally the main drawback. The first electronic one I ever read about was the Potter, and it ran way over \$1000. But by the 1960s, excellent chronographs were available for less than \$300.

After I got real confused reading all the loading manuals and trying to



WATCHING HAYFIELD through Weatherby spotting scope, Lewis is ready for distant chucks with heavy barrel Ruger 22-250 wearing 12X Redfield scope.

guess what my handloads were doing velocitywise, I reached the conclusion that a chronograph might not be a bad investment. Unfortunately, makers of these instruments seem to spring up for a year to two and then just fade away. This was the case with my first one. But I used it with fair results and it did solve a lot of shooting problems when I knew the velocity.

The main problem I encountered with the several I used in past years was circuit trouble. Try as I would, I couldn't get the blasted things to work with every shot. Sometimes it took a box of shells to get four or five reliable readings. It sure took patience and ammo.

My first real success with the chronograph came about when I tested the Avtron K233. Although I remembered vividly the frustrations and nail biting episodes I had experienced with other chronographs, and I had doubts and fears aplenty when I was setting up the K233, I never had a lick of trouble. Consistent readings shot after shot

proved to me that the K233 is a very dependable instrument.

One of the features I appreciated with the K233 was its printed screens instead of the wire screens I had used with other models. These screens are placed exactly 10 feet apart for high velocity rifles. The bullet passing through the first screen starts the chronograph counting and breaking the second screen stops it. On the K233, four numbers flash immediately on the instrument panel when the second screen is broken. These numbers are then converted to feet per second by using a conversion table furnished with the K233. It takes but a few seconds per shot.

The K233 is expensive, but Avtron also manufactures the T973 which sells for around \$160. I have never used one, but Mr. Dwain Fritz, president of Avtron, assures me that the

T973 is just as accurate and dependable as the larger K233, although it is slower to read. He told me that with a little practice the T973 can be used nearly as quickly as the K233.

I have no qualms about suggesting to every serious handloader and benchrest shooter that a chronograph will soon pay for itself. With all the accessories available, the chronograph has to rank high on the list.

Today's shooter and hunter has everything readily available at prices he can afford. From palm rests to shooting stands, the gun world is filled with a variety of accessories to aid the shooter. Regardless of the type of shooting being done, there are many kinds of devices to assist the shooter. Take my advice and start enjoying life a little more by adding an accessory or two that could help bring home a trophy or a better score. . . .

No Hunting Licenses for Youths Under 12

Some persons apparently are under the mistaken impression that a youth under the age of 12 years who has completed a hunter safety course is eligible to purchase a Pennsylvania hunting license. A youngster under the age of 16 years must satisfactorily complete a hunter safety course or have previously held a hunting license in Pennsylvania or another state in order to qualify for a license, but this doesn't mean that he can purchase a license at any age if he has taken a hunter safety course. Under provisions of the Game Law, it is unlawful for any person under the age of 12 years to receive a hunting license under any circumstances. Youths under 12 are encouraged to take hunter safety courses so they will be able to qualify for a license when they become 12 years of age.

Looking Backward . . .

"We have seen but one or two saddles of venison since the opening of the season. But few will be killed until after a fall of snow." ["Raftsmen's Journal," Clearfield, Oct. 17, 1877.]

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS *Executive Director*

ROBERT S. LICHTENBERGER *Deputy Executive Director*

EDWARD T. DURKIN *Comptroller*

Division of Administration

DANIEL H. FACKLER *Chief*

Division of Research

DALE E. SHEFFER *Chief*

Division of Land Management

HARVEY A. ROBERTS *Chief*

Division of Law Enforcement

JAMES A. BROWN *Chief*

Division of Minerals

JOHN B. SEDAM *Chief*

Division of Propagation

RALPH E. BRITT *Chief*

Division of Information and Education

ROY W. TREXLER *Chief*

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188

Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.

SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.

Phone: A.C. 412 238-9523 or 238-9524

Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641

Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.

SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.

Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.

Phone: A.C. 717 675-1143 or 675-1144

Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.

Phone: A.C. 215 926-6071

Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473. Phone: A.C. 215 287-8151

WESTERN GAME FARM—G. Russell Enlow, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212

LOYALSOCK GAME FARM—Jack N. Anderson, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500

STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223. Phone: A.C. 814 275-2515

STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

HOWARD NURSERY

SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

RGSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brookway 15824. Phone: A.C. 814 265-0456

Pennsylvania Seasons and Bag Limits 1971-1972

The Pennsylvania Game Commission, in Harrisburg on June 3, 1971, established the following seasons and bag limits for resident game and furbearers for the 1971-1972 hunting license year which begins September 1.

Open season includes first and last dates listed, Sundays excepted, for game. The opening hour for small game, migratory game birds and other wild birds or animals on October 30 will be 9:00 a.m., D.S.T. Shooting hours for other days and seasons will be from one-half hour before sunrise until sunset except raccoons which may be hunted any hour and turkey gobblers (spring season) from one-half hour before sunrise until 10:00 a.m., D.S.T. Shooting hours for migratory birds will be announced later.

SMALL GAME

Daily Limit	Season Limit		DATES OF OPEN SEASONS	
			First Day	Last Day
6	30	Squirrels, Gray, Black and Fox (combined)	Oct. 16	Nov. 27 AND
2	10	Ruffed Grouse (not more than 10 in combined seasons) ..	Dec. 27	Jan. 15, 1972
1	1	Wild Turkey—Counties, and parts of, listed below*	Oct. 16	Nov. 27 AND
		—Counties, and parts of, not listed below	Dec. 27	Jan. 15, 1972
		—Spring Gobbler Season (bearded birds only) ..	Oct. 30	Nov. 27
4	20	Rabbits, Cottontail (not more than 20 in combined seasons)	(Except Nov. 22 & 23)	
2	8	Ring-necked Pheasants, males only	Oct. 30	Nov. 20
4	20	Bobwhite Quail	May 6	May 20, 1972
2	4	Hares (Snowshoe Rabbits) or Varying Hares	Oct. 30	Nov. 27 AND
Unlimited		Raccoons (hunting or trapping)	Dec. 27	Jan. 15, 1972
Unlimited		Woodchucks (Groundhogs)	Oct. 30	Nov. 27
Unlimited		Grackles	Oct. 30	Nov. 27
Unlimited		Squirrels, Red	Dec. 27	Jan. 1, 1972
			No close season	
			No close season	
			No close season	
			All months except	
			Oct. 1-15 incl.	

BIG GAME

1	1	Bear, over 1 year old, by individual or by hunting party of five or more	Nov. 22	Nov. 23
		Deer, Archery Season, any deer—Statewide	Sep. 25	Oct. 29 AND
		Closed in Counties, and parts of, listed below** ..	Dec. 27	Jan. 15, 1972
		Deer, Antlered, with 2 or more points to an antler or a spike 3 or more inches long	Nov. 29	Dec. 11
1	1	Deer, Antlered and Antlerless, with required antlerless license, buckshot only in Special Regulations Area listed below*** ..	Nov. 29	Dec. 11
		Deer, Antlerless—Statewide	Dec. 13 & Dec. 14 ONLY	
		—Counties, and parts of, listed below**** ..	Dec. 13	Dec. 18

FURBEARERS

Unlimited		Skunks and Opossums	No close season	
Unlimited		Minks	Nov. 20	Jan. 30, 1972
Unlimited		Muskrats (traps only)	Nov. 20	Jan. 30, 1972
6	6	Beavers (traps only)—Counties of Susquehanna and Wayne ..	Feb. 5	Mar. 5, 1972
3	3	Beavers (traps only)—Remainder of State	Feb. 5	Mar. 5, 1972

NO OPEN SEASON—Hen Pheasants, Cub Bears, Elk, Otters, Hungarian Partridges, Sharp-tailed Grouse, Bobcat or Wildcat.

NO CLOSE SEASON—Chukar Partridges.

***For special regulations concerning deer, turkeys and beaver, consult the 1971-72 Hunting and Trapping Digest.**

P3830
1.6
1971
No. 11

PENNSYLVANIA GAME NEWS

NOVEMBER, 1971

25 CENTS



PENNSYLVANIA STATE LIBRARY
DOCUMENTS SECTION

OCT 21 1971

Published Monthly by the
PENNSYLVANIA GAME
COMMISSION

COMMONWEALTH OF
PENNSYLVANIA

Milton J. Shapp
Governor



COMMISSION MEMBERS

Edwin J. Brooks, President
Lansdale
Andrew C. Long, Vice-President
Shamokin
H. L. Buchanan, Secretary
Franklin
James A. Thompson
Pittsburgh
Loring H. Cramer
East Stroudsburg
Frederick M. Simpson
Huntingdon
Robert E. Fasnacht
Ephrata
Marshall E. Jetty
Brockway



Glenn L. Bowers
Executive Director



PENNSYLVANIA
GAME NEWS

Robert S. Bell
Editor
R. Theodore Godshall
Associate Editor
John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
A Bear Is Number One	2
By Dave Drakula	
Still-Hunting Sir Ruffneck	6
By Archibald Rutledge	
Nessmuk	11
By Robert L. Lyon	
Mixed Bag Along the Chillisquaque	16
By W. L. Miller	
High Rock Crossing	22
By John Crowe	
Another Dynamic Duo	27
By Nick Sisley	
Field-Dressing a Deer	42
By Ned Smith	
It Was a Good Day	46
By George Scanlon	

NEWS

Field Notes	34
Conservation News	38
By Ted Godshall	
Hunter Safety Education	44
By John C. Behel	

COLUMNS

Light on the Subject (Camping)	48
By Les Rountree	
A Chance to Choose (Archery)	53
By Keith C. Schuyler	
The Case for Shotgun Slugs (Guns)	58
By Don Lewis	

COVER PAINTING BY TAYLOR OUGHTON

There is little doubt that for most of us the ringneck is the game bird we go for. Some specialists concentrate on other species, but nothing else that flies gives so many Keystone hunters so much satisfaction as this big, bold, brilliant bird. And there's something special about hunting him in an early snow. The air is cold, the stubbles crisp, the mood electric. And when that switch is clicked and a pair of cock-birds blasts off, it's like 20,000 volts going through the hunter's boots! This is the moment he dreams of all year. If you don't believe it, ask the guy who's been there.

Published MONTHLY by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$2.00 per year; \$5 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved. **NOTICE:** Subscriptions received and processed by the last day of each month will begin with the second month following.

Printed by Times and News Publishing Co., Gettysburg, Pa.
Second Class Postage Paid at Harrisburg, Pa. 17120, with additional entry at Gettysburg, Pa.

What's in the Wind?

IT'S NOVEMBER AGAIN, and doubtless every hunter in Pennsylvania will be afield at least several times during the month. We've waited all year for this time, as our fathers and grandfathers did before us. The fields and woods are beckoning, the game is waiting, nothing could keep us home. At least that's what we believe. But is it true?

Not necessarily.

Oh, the near future is bright enough. We've got the game—as much as ever in most species, more than ever in some—and we still have space to hunt in. Not as much as we'd like, maybe, but with some effort we can find open areas. So we get along. But what will it be like 10 years from now, or 25, or 50? Nobody knows, of course, but there are some ominous clouds in the offing. Each year we hear about more opposition to hunting as a sport. This is partly brought about by some hunters themselves—that minute minority whose unsportsmanlike and illegal actions cause trouble for everyone else—but most of it comes from another minority, a tiny but loud group which apparently has made the abolishment of hunting its goal in life. Their reasons are hard to understand, possibly because they never explain them and probably don't understand them themselves. But they easily come up with superficial explanations for their attitude, usually through attributing human qualities to animals and asking how anyone could shoot “poor little brown-eyed Bambi,” meanwhile ignoring the fact that each day, the year round, thousands of steers, lambs, turkeys, chickens, etc., are slaughtered so that they, as well as we, can have steak or lamb chops for dinner.

Interestingly, many of the Bambi-lovers live in places like New York City and have never seen a wild animal in their lives. And I'm beginning to wonder if they really have any interest in animals at all. Or is this whole movement just another back door battle in the never ending attempt to take away our guns? There's no doubt that the U. S. has one of the highest rates of private gun ownership in the world. There's no doubt that this gun ownership would, if the situation demanded it, give this nation the most formidable guerrilla army that ever existed—an army that could not be defeated by conventional means. Nor is there any doubt that the ultimate goal of some un-American governments, despite their current public comments and their hoodwinked apologists, is still to take over the world. So I can't help wondering if somehow there is a connection between the anti-hunters and the anti-Americans. Maybe there's not. But we shouldn't ignore the possibility.—*Bob Bell*



T. Oughton

A BEAR IS NUMBER ONE

By Dave Drakula

FOR ALMOST three months I had waited for this day. In a matter of a few hours, Pennsylvania's bear season would open. Once again I rolled over and looked at the clock. Time seemed to stand still.

Finally, the alarm sounded. In a few minutes the smell of coffee perking and bacon and eggs frying filled the kitchen. I pushed back the kitchen curtain and squinted at the thermometer. The temperature stood at 19 degrees and eight inches of snow covered the ground. A little shiver ran through my body.

It was 1967 and northcentral Pennsylvania had been blessed with a record crop of beechnuts and acorns. For the last 10 days, however, the cold and snow had gripped these Cameron County mountains. Many "old-timers" felt that most of the bear had eaten their fill and gone in for the winter.

For good reason I crossed my fingers and hoped they were wrong. Three months earlier I had walked up to a large sow and three cubs. And in the early days of turkey season I watched entranced as a lone bear gorged himself on the abundant crop of beechnuts. I had always wanted a bear and this season looked like the best chance I would ever have.

Breakfast over, I stuffed a lunch into the back of my hunting coat, made a final check of equipment, and stepped out into the cold morning air. A starry sky gave promise of a clear day.

Today, I planned to hunt the top end of the Cooks Run area in Cameron County. It was only some eight miles from my home in Clear Creek and in 15 minutes I parked at the mouth of one of its branch hollows. Several hunters already had left their cars and begun walking up the trail.

Rather than follow them, I chose an old tram road that led a switchback course to the top of the ridge.

I walked slowly, stopping often to rest and avoid becoming overheated. Several times deer snorted and then bounded away. In the pale dawn light I could see where they had overturned large areas of snow and leaves while searching for beechnuts. Below me in the valley, the volume of traffic increased as more hunters took to the hills in search of a bear.

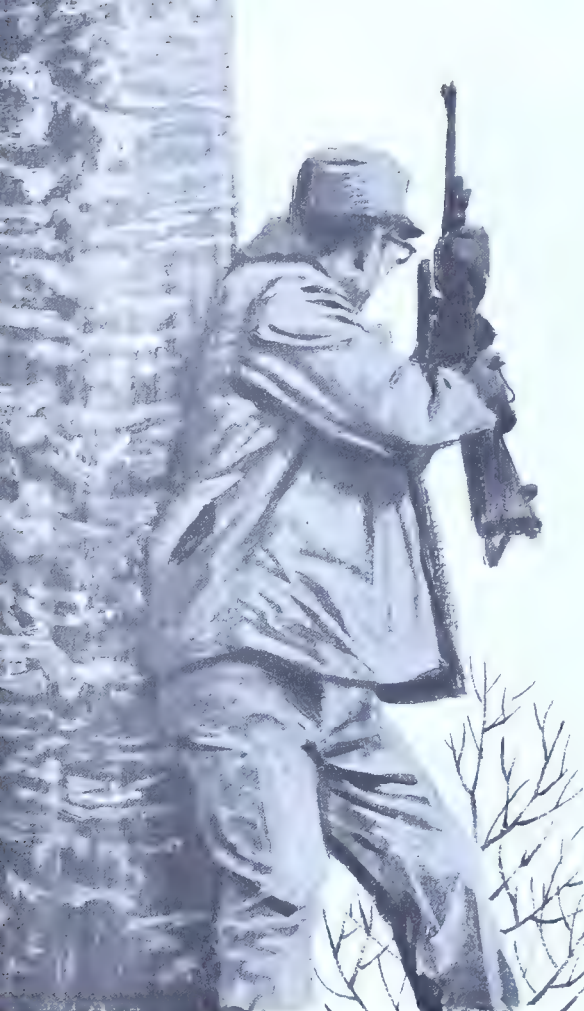
An hour later I stood in a small saddle at the top. Carefully I inserted a clip of 308 ammo into the Model 88 Winchester and grimaced at the un-woodslike sound of a cartridge being levered into the chamber. Legal shooting time passed quietly.

I leaned back against an old beech tree and waited. Though a bright sun now filled the sky, the morning's cold chilled me and I decided to move. Slowly I skirted the ridge, staying just on the edge of the flat where I could see over the side and across the top.

Stand of Beeches

Near its end the ridge formed a large bowl that contained a beautiful stand of beech trees. It was here that I had earlier watched the lone bear eat his fill. I waited for a few minutes and then began to slowly walk the upper rim of the bowl. The morning was quiet except for normal woods noises. A black squirrel scampered from one beech tree to another, rattling the skeletonlike branches in the process. A group of chickadees performed their trapeze acts while a nut-hatch rivaled them with his headfirst descent down the trunk of a tree.

Halfway around the bowl a volley of shots erupted in the next hollow. My heart took off in high gear. I



FOR A MOMENT there was nothing. Suddenly he burst out of the vines, crossed an opening and headed for the bottom. I found him twice in my scope and fired. . . .

clutched my rifle and waited, expecting at any moment to see a bear bound into view. But nothing at all happened.

I gingerly worked my way across the bowl and into a small gully. There, fresh in the snow, were bear tracks. I knelt and examined them. With fingers spread I couldn't quite cover the tracks made by the hind feet. I was sure it was a legal bear.

Now I faced a decision. Should I follow the track or circle ahead and try to intercept the bear? Because I couldn't clearly tell in which direction he was headed, I followed the trail.

The bear started toward the valley, then changed directions and began angling along the mountainside. By now he was in thick grapevines and moving slower. So was I. Several times

I saw where he had squatted down as if to see if anyone was following.

I continued to track him out along the ridge. The steady pace and my heavy clothing had me perspiring freely in spite of the cold air. Every hundred yards or so I stopped to wipe the moisture from my eyeglasses.

Suddenly his trail headed downhill. Now was my chance. I hurried for the bottom where a woods road followed the stream. If I could get there before he crossed, I might have a good shot.

I reached the bottom and waited. Five minutes passed. Ten. Nothing.

Carefully, I started down the road. Seventy-five yards from where I had been standing, his tracks appeared. He had crossed the road before I got there.

Up the Ridge

With my scope I could see that his trail headed up the ridge right in the direction of my morning's first stand. There was only one chance. Maybe he would slow down in the grapevine thickets and I could beat him to the top. I backtracked a hundred yards or so up the road and began the climb.

At the top I was wringing wet from perspiration. I managed to find a dry corner of handkerchief and wiped my glasses. Slowly, all the time hoping I would not see his tracks going over the top, I started along the ridge to a point where I thought I would be even with him. Crouched, I eased to the side and peeked over. Slowly I stood up, eyes searching the grapevines and beech brush.

For a moment there was nothing. Suddenly he burst out of the vines, crossed an opening and headed for the bottom.

I found him twice in my scope and fired. The blast of the gun echoed away and he was gone.

I hurried down the mountainside to the last spot where I had seen him. There on the snow was a bright spray of red. Farther on was another.

I replaced the two fired cartridges and cautiously began to follow the



trail. Near the bottom of the ridge I heard a loud crash and the sound of water. My bear was crossing the creek. Immediately I stopped and began watching the opposite hillside. Hemlocks grew partway up the mountain, then there was an open swath before beech brush and grapevines took over. I waited tensely, hoping the bear would cross the opening. After what seemed minutes he was there, struggling up the mountainside. I put the cross hairs on his shoulder, followed him for a couple of yards and squeezed the trigger. The 308 boomed and the bear crumpled, rolled over several times and lay still. I'm sure you could have heard my shouts of triumph all the way to Emporium.

For over two and a half hours the bear and I had played the oldest game known to man—the hunter and hunted. Now it was over. Later I would add a 6-point buck to the bear and an earlier turkey to account for “Pennsylvania’s Big Three.” But there’s no doubt in my mind that the bear ranks number one.

Have Your Bear Checked

Black bears are among our most important game species, and information on bears is urgently being sought by the Game Commission. If you kill a bear this season, please have the animal examined by a Game Commission officer. Your efforts will assist the wildlife management program and help assure the future of this species in Pennsylvania.

Environmental Sciences Program at Slippery Rock

Slippery Rock State College has initiated the first comprehensive undergraduate study in Environmental Sciences in Pennsylvania. This interdisciplinary program involves the departments of biology, chemistry, geology, health, recreation, economics, geography, political science, and sociology-anthropology. After satisfying basic requirements, students may concentrate on the areas of water and air pollution, land use planning, or social and economic planning. Persons interested in this program may contact J. W. Shiner, Ph.D., Chairman, Recreation Department, Slippery Rock State College, Slippery Rock, Pa. 16057.



Still-Hunting Sir Ruffneck

By Archibald Rutledge

THE MAN WHO likes to take a day off in the autumn to range the woods for the ruffed grouse is not likely to have a bird dog trained on grouse. Some regular grouse hunters have such dogs, but the average man who loves the recreation of the woods has not. However, his lack in that respect need be no discouragement to him; indeed, from some points of view it is a positive advantage to have no dog. Even the best dog is noisy in the woods, and thus he puts all game on guard against the approaching hunter; unless the dog be of the best type, his hunting of grouse will be a haphazard matter; unless the country be of a suitable nature, and unless the grouse happen to be in a mood to lie to the dog, there may be great difficulty in getting shots over points. While I do not deny the companionship of a dog in the woods, he is not always desirable. Still-hunting with him is not possible; and it is of still-hunting Sir Ruffneck that I want to speak.

It is a much easier matter to still-hunt the ruffed grouse than it is to still-hunt quail. Indeed, where the cover of fields is heavy, the latter task is impossible. I have heard men say that they could do it successfully, but I believe they must have had a few pet coveys "gentled" to come to a whistle and to eat out of the hand. When the frost-blackened ragweed is knee high and the dry foxtail grass has arched over, it is often a hopeless matter to find and to follow quail. Besides, hunting quail without a dog has no advantages. Most men get as much enjoyment out of watching the action of the dogs in the field as they do in tramping the fields and bagging the game. Some must get their sport out of watching the dogs, for they find it impossible to bag the game. But still-hunting the grouse is practicable even

for the man whose work does not permit him to become thoroughly acquainted with all the remarkable characteristics of this extraordinary bird.

The ruffed grouse drums at all seasons of the year. This sound is probably a love call and a challenge to rivals. It may be compared to the strutting of the turkey; we know that odd sound that the gobbler emits when at the zenith of his bombastic strut. Sometimes the drum of Sir Ruffneck is, I think, merely an expression of his feeling of lordship over the lesser creatures of creation. This is probably what it means in the autumn. This expression of superiority on his part permits man to take a fall out of his pride; for, after a little experience one can follow the drum, locate the grouse, and probably get a shot at the prince of the woodland as he whirrs off his vine-draped rock or off the ancient mossy log that's half buried in leaf mold in the heart of a sequestered thicket.

Drumming Direction

But while the grouse can be approached if thus located, it is a difficult matter to ascertain the direction from which the drumming comes. On still fall days, when the dropping of a single lazy leaf attracts notice, a grouse may be heard drumming in his soft, dim, throbbing, penetrating way. Is it on this slope of the hill, or across the hollow? Is it down the ridge, or is it up? How far off is he? It is very easy to err in attempting to answer these questions. And on the right answers will depend the success of your hunt. The thing to do is to stand still, listening until you are sure of the direction whence the drumming comes. Then walk a hundred yards in that direction, pausing to hear the drum.

When you are sure of your direction, then try to determine the distance. I confess that this is most baffling, especially if the atmosphere is damp, for then the sound will have its natural muffed quality enhanced. But at least the hunter knows that if he keeps on in the right direction he will eventually flush his bird.



KNOWING WHAT GROUSE eat—such as bunchberry, acorns, sumac seed heads—helps when you're hunting them, all experienced outdoorsmen know.

The hunter should be ready to shoot at any time. While stalking one grouse, he may flush another; or he may flush the one he is after much sooner than he expected. If the drumming ceases, especially if it ends abruptly in the midst of a drum, he may be sure that the bird is aware of his approach. Not one man in a hundred can crawl up to a drumming grouse. I do not refer, of course, to the grouse of those regions where the lack of hunters has rendered the birds tame and fearless, but to the alert, sprightly, crafty, elusive grouse of our settled regions, where for a generation at least sportsmen have roamed the woods.

Of course, a man cannot depend on a grouse to accommodate him by drumming. He must have other ways of locating his game. The most natural of these is by sitting still, looking, listening; moving on after a time, to take up the silent, crafty watch at a

different place in the woods. This kind of hunting just suits some men. I remember taking a friend deer hunting in the South. We rode out to the stands in a wagon. I posted him on a log on the edge of the road. "Stay here," I said, "until we get back. It may be a couple of hours." He subsided amiably on the log. "Just my kind of hunting," he answered. When we returned he was fast asleep.

Where the woods are level, the hunter will have to do his still-hunting at random until he finds a grouse; then he may be able to discover what brought the bird to the particular place. If some attraction in the shape of food is visible, the inference is that more birds are near. The hunter should sit still and wait. The great principle of all still-hunting is to let the hunted rather than the hunter make its presence known. If the bird is an old male, he may be a wanderer, for in the autumn the old males range erratically, and one may be found miles from a comrade. I once shot a grouse along a creek flowing through a farming community; the mountains, whence he had come, were five miles away.

High or Low?

Where the hunting is done on hill-sides, where most grouse shooting is naturally to be had, the still-hunter should begin his day by seeking to ascertain whether the grouse are ranging high or low. Though they sometimes are distributed over various altitudes, it often occurs that they frequent the high sides of the ridges, or else are all down near the bottom. It saves a lot of tramping, not to mention disappointment, if the hunter will take time and patience to discover where his birds are feeding and ranging. Then he can spend his day either uphill or downhill, rather than spend it in traveling back and forth in a fruitless search.

The still-hunter of grouse must be a patient man, and he must be one capable of limiting his ambitions. After sitting for several hours, feeling that

as they glide by he is losing his chance of bragging to the people at home, he must not be discouraged. He should always go on the principle that to every patient man the chance comes. More than once I have had a very empty morning still-hunting, and a very full and sporty afternoon. And what I can do the average hunter can do.

Other Game

The chances that the still-hunter for grouse has are not limited to the chances of Sir Ruffneck himself. If he is not too exacting in the matter of the kind of game he desires, while sitting quietly on his rock or log, waiting for grouse, he may also be waiting to see a mountain covey of quail, a fox squirrel, or a gray squirrel come within range; or perhaps a rabbit that another hunter has started will come jumping sedulously along. I have known foxes and even wild turkeys to be bagged by men who were still-hunting grouse. I take it that while few men like to "kill them all," every man likes to take something home, lest the children think that Dad is a back number, and lest someone else who has been counting on a game dinner will have to rearrange her menu.

Men in the woods will act almost as they do at home; I mean that their natures will betray them or will save them. Whatever you do, try not to be a buffalo in the woods. I have a friend who is a giant of a man; in business, he "butts the bull off the bridge." Unfortunately, he carries his ideas of success into the woods. On a still day he can be heard for miles, tearing through the brush, calling his comrades at the top of his powerful voice, dislodging boulders that go thundering down the mountain, getting all out of breath and "overhet"—to what end? Presumably because he thinks the mere expenditure of energy can win in the game of hunting. Never! Silence, craft, keenness of hearing and vision, patience—these alone bring home the bacon in the game of still-

hunting. Don't crack a twig in the woods if you can help it; don't talk above a whisper; don't shout—whistle if you have to signal; don't wind yourself by going too strenuously, for if you do and get a shot you will probably miss. Take the sport calmly, quietly, determinedly. Be an Indian!

Knowing the favorite foods of the grouse in the hunting season, the still-hunter will naturally frequent these places where the bird's food is found. Grouse, like quail, feed early and late, and they usually walk to the feeding ground. How often have I sat near a tangle of grapes and greenbriers and heard the hesitant approach of grouse. They usually come singly; they learn

THE HUNTER SHOULD be ready to shoot at any time. While stalking one grouse he may flush another. He must expect the unexpected.



early that each individual must take care of itself. At such a time it is not enough for the hunter to make no sound; he must not move his head or his body, for the eye of a wild thing is as quick to detect movement as its ear is to detect sound. He must let the bird come well within distance; then, unless he wants to watch it feed or wants to take a chance on others coming up, he must flush it and shoot. I have no use for the man who will shoot a grouse on a tree or on the ground. He ought to get his recreation in some other way. He kills the bird and the sport at one shot. Some allowance is made, of course, for those who use a 22 rifle. That surely is legitimate, especially if the bird be taken in the head. Anything else is disgraceful.

In bagging the grouse on the wing, much depends on the nature of the bird's rise. The intelligence of the grouse is well known, as is its favorite method of illustrating that intelligence by foiling the sportsman by a baffling rise. Also, if there is a tree to be put

between the hunter and the hurrying bird, Sir Ruffneck will put it there. In still-hunting, therefore, the hunter, having located a grouse, should look the situation over carefully, decide where the grouse will go if flushed and where the hunter wants it to go. In short, one of the arts of still-hunting consists of flushing the bird in a manner that is advantageous to the hunter. Don't flush at random, and take a chance; try, at least, to flush craftily, designedly, and make as certain as you can of your shot. Should the bird flush wild, or should you miss, don't guess as to where he will come down. Watch him to the very last glimmer of his wings. Mark him down! Note particularly whether he veers to right or left. The chances are that if his flight is high over sprouts and trees, it will be long and somewhat wild; if through the woods it can usually be followed with considerable accuracy. And always be as tireless in your pursuit of him as you were patient in your waiting for him to come to you.

Book Review . . .

Two New Books in Arms and Armour Monograph Series

F. Wilkinson's *Flintlock Guns and Rifles* gives a short section on the development of these pre-percussion ignition firearms which for over a century determined much of the history of Europe, Asia and America, then by way of 100 good photographs and informative captions illustrates significant variations in both civilian and military flintlock long arms in the 1650-1850 period. It's interesting to note that the cheekpiece on one carbine dating from 1810 (illus. 48) is more beautifully shaped than those on many of today's rifles.

The Collector's Pictorial Book on Bayonets lists much basic information on a comparatively new field for collectors. Upwards of 300 lengthily-captioned photos illustrate and describe the various types of bayonets used on military weapons over a three-century period. Though most fall into the basic plug, socket or sword classes, exceptions such as the American trowel and Spanish machete designs are covered. Bayonets from some 20 countries are illustrated here.

(*Flintlock Guns and Rifles* by F. Wilkinson, 80 pp., 1971, \$4.95. *The Collector's Pictorial Book of Bayonets* by Frederick J. Stephens, 127 pp., 1971, \$4.95. Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa. 17105.)

A Glimpse at the Life of an Early Pennsylvania Woodsman Whose Influence Is Felt Yet Today . . . the Expert Who Long Ago Advocated "Smoothing It" in the Wilds Instead of "Roughing It," the Author of the Legendary Book, "Woodcraft" . . .

NESSMUK

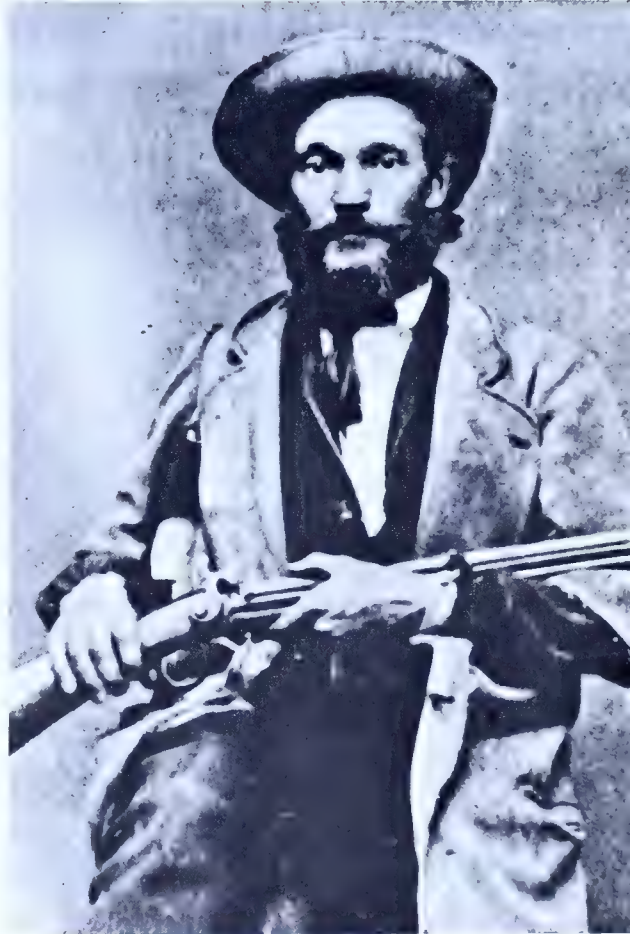
By Robert L. Lyon

DECEMBER 2, 1971, will mark the sesquicentennial of the birth of "Nessmuk," best known and most influential of the late 19th century's outdoor writers. Celebrated for his woodcraft, he was also a pioneer conservationist.

The name of Nessmuk (nom-de-plume of George Washington Sears) is associated with Massachusetts, New York State, Ontario, Michigan, Wisconsin, Minnesota, Florida, the Azores, Brazil, and, according to some evidence, Argentina and the South Pacific. Born a New Englander, he lived 10 years in New York State and made more than passing visits to the other places.

But most of all, Nessmuk is associated with Pennsylvania, in whose Northern Tier he resided, camped, hunted, fished, and wrote, during the last 42 of his 68½ years of life. His home, a picturesque cottage, stood on the banks of Morris Brook — now dammed to form Lake Nessmuk—at the south edge of Wellsboro, Tioga County, then a backwoods village surrounded by forests. When he arrived in 1848, its population numbered a few hundred.

The forests appreciated Nessmuk more than the population, some of whose members looked askance at the irresponsible activities and unorthodox views of this impractical little eccentric. But Nessmuk considered himself a Pennsylvanian, and a loyal one. A hundred years ago, writing about his early days there, he concluded:



George Washington Sears
"Nessmuk"

"Since that time Wellsboro has been our home. We have switched off at times, when the fiend of unrest was strong within us, when the devil of uneasiness whispered of crisp waves on the broad Atlantic; of long-haired, dark-eyed girls by the waters of San



THIS WAS NESSMUK'S cottage in Wellsboro. It has been extensively remodeled into the home of Mr. and Mrs. Andrew Comfort, who take pleasure in knowing the legendary Nessmuk once dwelt here.

Antoine—on the island of Ta-ta-wa-ha—by the tropical town of Ma-ca-pa. (In his dreams Nessmuk was quite a ladies' man.) We have been there; we have seen it all. And the best of all was the quiet ride from Corning, among the hills of Crooked Creek, by the long marsh—and home." (Corning, N. Y., 40 miles to the north, was situated on the Erie Railroad. This was the nearest the "cars" came to Wellsboro.)

Nessmuk was equally cordial to the hunting and fishing opportunities afforded by the northern Pennsylvania mountains. He visited Canada, Michigan, and Minnesota many times, but this did not prevent his establishing 18 or more semi-permanent camps in Tioga, Potter, and Lycoming Counties. Pine Creek and the Susquehanna River were among his favorite streams.

One of America's most versatile personalities, Nessmuk wore many hats besides the "wideawake" under which he hunted venison and bear meat, and the headgear he donned as a writer for the outdoor fraternity. He was an adventurer who explored wilderness tracts from the frozen North to the

Amazon. In his youth he had pulled an oar with commercial fishermen off the coast of Cape Cod, and another in the waist boat of a whaling bark. Among the first to answer Abraham Lincoln's call for volunteers in the Civil War, he served briefly with the "Bucktails," Pennsylvania's famous regiment of sharp-shooting hunters and lumberjacks.

He was a social rebel who remembered his child labor in the first cotton mill of Webster, Mass.—his own birthplace and virtually that of the American Industrial Revolution. He was a poet whose verse, while it will never disturb the pedestal of Lord Tennyson, was widely published and later collected in a volume called *Forest Runes*. He was—though he goofed off from work—a cobbler, a gardener and orchardist, an experimenter with strawberry culture, and for a time a newspaperman.

Nessmuk wore these hats and played these varied roles. But most importantly, he was a master of woodcraft. He knew the trappers around the Great Lakes, guides in the Adirondacks, and swamp-dwelling "crackers" in Florida who lived out their lives in the woods. Conversely, Nessmuk, over a period of half a century, spent only "an aggregate of 12 years" in the wilds.

Questioned and Experimented

But those professional woodsmen accepted the tools of existence bequeathed them by their pioneer fathers. Nessmuk questioned and experimented. Convinced that sportsmen invariably went into the woods handicapped by too much duff, he admonished them: "Go light; the lighter the better, so that you have the simplest material for health, comfort, and enjoyment."

In his early 20s he designed the famous Nessmuk pocket hatchet, an 18-ounce, double-bitted implement almost equal in tree-felling effectiveness to a long-handled axe. In a permanent camp he would cook with five pieces of light tinware which nested together,

but on the move he carried only two. The time-honored packbasket he rejected in favor of a light knapsack of his own devising. At the Adirondack Museum, Blue Mountain Lake, N. Y., visitors daily became goggle-eyed as they inspect the 10½-pound cedar canoe he designed for his 1883 cruise of the region's lakes. Even that wasn't his lightest canoe!

Nessmuk also discovered new and more efficient ways of building an overnight camp and an overnight fire, of cooking in the open, of keeping warm without excessive clothing weight, of repelling the mass offensives of black flies, punkies, and mosquitoes.

He shared his discoveries. These—and many other—ways of “smoothing it” instead of “roughing it,” were explained in *Woodcraft*, the little handbook which promises to be as immortal as it is classic. Eighty-seven years after its first publication, *Woodcraft* is still in print on both sides of the Atlantic.*

As a corollary to his craftsmanship in the woods, Nessmuk gained national attention as one of America's pioneer conservationists. Not only did he speak out again and again, but he took personal action against “the trout hog, the netter, the cruster, and skin butcher” — and, more significantly, against the industrial leveler of forests and polluter of streams.

Especially was this true in the decade of the 1880s when his voice was joined with that of *Forest and Stream*, then the foremost champion of conservation, to which he contributed almost 100 articles. (The influence—and audacity—of that eminent journal were demonstrated when it took on the all-powerful adversary, *Feminine Fashion*, which dictated the wearing of feathers and stuffed birds

on ladies' hats, and which threatened the extinction of many species of game and songbirds.)

Defending the forests, the game, and the fish were Nessmuk's province, and his words, now burning with indignation, now scathing with satire, were heard throughout America. In one of the last of Nessmuk's articles to be published in his lifetime (*Forest and Stream*, September 13, 1888), entitled “What Shall Be the Outcome?” he makes some predictions for Pennsylvania. Here is a condensation of these:

“Long ago I said, ‘The game must go.’ It was too true.

“I rise to add that the woods must go. . . . The lumberman cleared the white pine from the high, sterile mountain spurs, and the scattering pines were soon replaced by a dense growth of ‘small stuff,’ making better game cover than before.

“When it became demonstrable that there was ‘money in hemlock,’ the fate of the hemlock was sealed. The

MORRIS BROOK, on whose banks the home of Nessmuk stood. Photo taken just upstream from Lake Nessmuk, which was formed by damming this stream.



*Mr. Lyon advises that Nessmuk's book *Woodcraft* is currently available from The Bookmailer, Inc., 30 W. Price St., Linden, N. J. 07036, price \$1.25. Another of his books, *The Adirondack Letters*, with the byline G. W. Sears, is reportedly available from the Adirondack Museum, Blue Mountain Lake, N. Y., price \$5.—Ed.

hoary centurions of the forest are going down on every side before a hurricane of axemen, and being scalped by a cyclone of 'spudders.' . . . The long, low tannery, with its labyrinth of vats and villainous refuse, commences its vocation of poisoning and depleting the purest trout streams in the land. The deer vanish with a rapidity that cannot be accounted for by illegitimate hunting. . . .

"But the tanneries have not come to stay. When the bark is exhausted, they will be left to rot and decay. . . . And what of the denuded forest? What of the desecrated and poisoned streams? Well, it may be better than we think.

"First of all, fire will sweep through the dry hemlock tops and debris of the 'job.' These will gradually be supplanted by a more substantial growth of maple, beech, pine or oak. Very much of the denuded forest will grow up to dense cover, wherein small game will find better food and cover

BARBER'S BEND on Pine Creek, from an old postcard. This curve of the New York Central railroad was just below Nessmuk's camp at "The Eddy."



Robert L. Lyon, of Corning, N. Y., former drama-music critic, resigned his career in journalism to do historical research. A native of Wellsboro, Pa., he spent two years investigating the life of George Washington Sears, longtime resident of Wellsboro and internationally known 19th century woodsman-writer-canoeist who was far better known by his pen name, Nessmuk. From this research, Mr. Lyon is preparing a full-length biography. In the meantime, he has published a 28-page booklet, "Who Was Nessmuk?" This booklet gives more information than we had space for in the accompanying GAME NEWS article. It sells for 50 cents, postpaid, with all proceeds donated toward a Nessmuk memorial to be created near Wellsboro. Interested readers may obtain copies from the Wellsboro Chamber of Commerce, Box 733, Wellsboro, Pa. 16901.

than in the dark hemlock forests of old.

"As for the streams, I flatter myself with the notion that, when the skinned and denuded land has grown up again with a dense, low, thick-leaved cover, the springs will gush as in olden days, and the streams will flow with pristine purity and fullness.

"At this present writing the pure waters of the 'Susquehanna's utmost springs' are a sight to behold. Let us take, as a fair example, the stream Pine Creek. At the Ansley's there is an immense tannery, and the banks of the stream from there to Four Mile Run are piled and heaped with spent tan bark, while the water for 15 miles looks like a decoction of logwood. . . .

"But I think the next generation will see better sport. . . . The floods of a single season will sweep the streams clear of spent tan bark and poisonous chemicals. The denuded forests will be replaced with dense cover, and the dried up streams will be restocked, and a wiser generation will conserve the game and fish instead of destroying. Men will have learned something by that time."

Nessmuk was a good prophet as far as he went. The tanneries decayed and disappeared, "second growth" appeared on the mountains, the game returned—the deer in numbers Nessmuk didn't dream of—and the streams, running clean again, were restocked.

Then population increased, upstream septic tanks and sewers replaced the tannery vats as polluters, Pine Creek became the "Pennsylvania Grand Canyon," and the tourists arrived, bringing new "people pressures." The streams are losing again some of their "pristine purity."

However, the most discerning of Nessmuk's predictions may be that "Men will have learned something." Dr. Peter W. Fletcher, professor of forestry at Pennsylvania State University, has just sent me a copy of "Man in the Ecology of a Mountain Stream," reporting progress in the first half of a four-year study of Pine Creek. A Pine Creek Watershed Association has been formed.

Concerned citizens are now in action, determined not only to save Nessmuk's Pine Creek but to rescue America's natural resources throughout the nation. It will take a while. It



LAKE NESSMUK, a half mile from the old woodsman-writer's home in Wellsboro, was named for him at the suggestion of the author of this article.

has taken a while to get this far. But as a prophet Nessmuk hedged his bets. Men *have* learned something. And Nessmuk was one of their first teachers.

Mushrooms deadly enough to kill a human are relished by red squirrels during summer months.

GAME NEWS Around the World

A recent letter asked what places GAME NEWS goes to, and after our Circulation Department checked it out we thought readers might be interested also. GAME NEWS currently goes to subscribers in all 50 states, plus the following places outside of the U. S.—Argentina, Australia, Austria, Belgium, Canada, Canal Zone, China, Denmark, England, Finland, Germany, Grand Bahama Island, Great Britain, Japan, Kenya, Malaysia, Mexico, the Netherlands, Newfoundland, New Zealand, Nigeria, Norway, Peru, the Philippines, Poland, Prince Edward Island, Puerto Rico, Scotland, South Africa, Spain, Venezuela, Virgin Islands, West Africa and the West Indies.



Sometimes I Look Back Thirty Years to a . . .

Mixed Bag Along the Chillisquaque

By W. L. Miller

IT STARTED with a pheasant. A lot of good days afield do, come to think of it. My cousin Jerry and I were working the edge of a cornfield, the stiff leaves rattling in the breeze that came up from the Chillisquaque and glinting like tarnished gold in the late fall sunshine. Our old Irish setter Mike moved independently somewhere ahead of us. This breed has lost popularity as a hunting dog in the last 15 or 20 years, but back then, three decades ago, they were seen fairly often, and Mike was a good one, a big-headed, deep-chested brute that was too powerful to be pretty, too ornery to be mushily loved. All he was was a highly respected hunting machine who figured his job was to find game and retrieve it after we shot it. In those days that arrangement suited us fine. It was what we went for. Nowadays I can spend a day loafing through the woods and fields and be happy with one shot—or even no shot at all—but when you're not yet old enough to vote and full of beans and vinegar, you gotta get something! And this day we did.

Anyway, as I said, this hunt started with a pheasant, but that was only the beginning, and that's one reason I'm writing this. Most of today's hunting stories seem to be written by specialists. They're quail or pheasant or grouse hunters, if you can believe what they write, and they never bust a cap at anything else. If they go grouse hunting, that's what they shoot. A squirrel that happens to run up an oak 25 yards ahead of them is as safe as a baby's lollipop, far as they're concerned. At least, as I said a moment

ago, if you can believe 'em. But back in the days I'm talking about here, we—Jerry and Mike and I—specialized in only one thing: bringing home game for the table. If it included a cross-section of whatever was in season, so much the better. It made a much more interesting display spread out for inspection or hung from a nail on a frayed bootlace to chill overnight. It'd take an old Dutch master to create even one picture that might compare with the dozens I've stored in my mind—a couple of rabbits, a squirrel, maybe a pheasant or grouse, fur and feathers somehow blended into a singular teardrop unit by the stretched-out posture, the exquisitely streamlined tail feathers. . . .

Back to That Pheasant

But to get back to that pheasant. It exploded up out of the corn just ahead of us, its *cak-cak-cak-cayouk* hanging in the air behind, feathers glittering like a handful of new thrown pennies. For an instant my eyes recorded the image of Mike's red head projecting through a screen of brown stalks 30 yards ahead, his wolf-hungry gaze wired to the bird. Then my concentration excluded everything from view but the straining ringneck and the blur of the gun barrel sweeping upward through him, and from a distance, barely registering, I heard the boom of my little 20-gauge Remington. It sounded a tiny bit stretched out. Feathers puffed, the bird folded, and I slammed another load into the chamber, even at that early age having learned that so long as a pheasant's in the air the best thing to do is keep

shooting. But it was down out of sight among the tall stalks before I could fire again, and Mike appeared immediately, carrying the big bird as easily as a terrier does a mouse.

"Good boy," I said, reaching for the pheasant.

"How come you're taking my bird?" Jerry called.

I gave Mike a pat, hefted the ringneck, looked uphill at Jerry. "Did you shoot?"

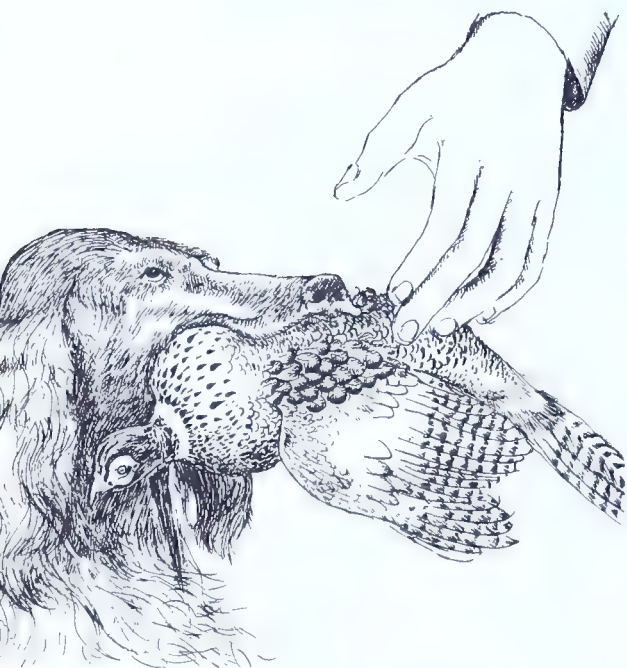
"Did you?"

I hefted the pheasant a bit more, straightened its wings and tail feathers. It sure was dead. "No," I said, "I didn't shoot. Must be your bird." I tossed it up to him and shoved a shell into my gun.

"I was only kiddin'," he grinned. "I didn't shoot."

"I know you didn't. But you're the youngest, you can carry it."

"Okay. Since I'm the youngest." He broke his L. C. Smith, threw the empty at me and dropped a shell into the open barrel.



"GOOD BOY," I SAID, reaching for the pheasant. "How come you're taking my bird?" Jerry called. "Did you shoot?" I asked.

I hadn't really heard him fire—our shots had blended almost perfectly—and that made me feel good. It meant I'd got my shot off almost as fast as he had, and with his set-trigger reaction time was something. Some people have a natural ability in a certain field that no amount of practice will let an ordinary mortal equal, and Jerry's strong point was shotgun handling. When he had a gun in his hands—which was a good bit of the time—it was just a part of him, those 26-inch tubes almost literally an extension of his trigger finger. When a bird flushed, his feet automatically slid into position, the gun came up already swinging, and the moment the butt hit his shoulder his finger hit the trigger and, with rare exceptions, his shot load hit whatever he was shooting at. The whole operation didn't take half a second. I hate to say it, but I envied his ability. It was beautiful to watch, and I did my best to emulate it, but I never really came close. Oh, I did okay if bringing home game was the only criterion, but when I booted a bird out I always felt as if my hands, feet, knees and elbows were going nineteen different directions as I "swung into action," and successfully getting the muzzle somewhere ahead of the beak before slapping the trigger was always a minor miracle for me. So when the laws of chance occasionally helped me do everything right on a shot, I always felt good about it. Sometimes I even told myself I was making progress at the shooting business, but I didn't actually believe it. And since I've already told you that I envied Jerry's ability, let me also say that was only a minor emotion compared with the pride I felt in him.

Anyway, it was only minutes after he'd slid the ringneck into his hunting coat that a cottontail flashed across the rows just ahead of me, kicked out but unseen by Jerry. It was gone in an instant, before the image had fully registered on my brain, but I shouted, "Rabbit," and dashed to one side. The edge of the cornfield was only half a

dozen steps away and as luck would have it the bunny had turned to parallel the rows, as they often do, its bobbing powder puff the most conspicuous part. It was a pretty long shot, 35 or 40 yards, but I rolled him and Mike appeared magically to retrieve him with the same efficiency as he had the pheasant. Mike never showed any disdain against rabbits or even squirrels. If we shot something, he brought it in. Doubtless he'd have done the same thing with a white-tailed buck if we took him deer hunting. He was big enough.

"Didja get him?" Jerry yelled.

"Yeah." I field-dressed the rabbit quickly. "Be good eating. Not shot up at all."

When we came to the fencerow we stopped a moment to look down across the patchwork of fields and woodlots stretching to the tree-lined Chillisquaque Creek. Scattered farmhouses dotted the area and we could see several cars moving along different roads, but not another hunter was visible anywhere.

"Wasn't like this on opening day."

"That's for sure."

Hottest Spot

The Washingtonville area in upper Montour County was quite likely central Pennsylvania's hottest ringneck spot 30 years ago, and when the minute hands of countless watches indicated the season's opening, it sounded like war was declared. Birds and hunters went all directions for a couple of hours—which is about how long it takes for this feathered species to realize its home grounds have been invaded by furriners with guns—and then the shooting died down and the hunting began. It was something to experience, I'll tell you, and we had been there for it several years running. But most hunters can't get off work during the week, and we had it to ourselves now.

We moved into a weed field where Mike was working, his coat catching the sun like a flame. "This far away,

Give

GAME NEWS

To a Friend . . .

he's almost as pretty as Prince," Jerry said.

"Don't even mention that name." Prince was Mike's son and a more beautiful animal probably never lived. But he wasn't worth the shell it'd take to shoot him. I always figured he took after his mother's side of the family. "We were lucky to find him a home."

"Yeah. Look, Mike's on something."

Mike had locked up near a patch of sumac half a football field ahead of us. We moved quickly, but before we were close he started to creep, then broke.

"It's running," Jerry said, and took off at a trot.

"Don't they always."

I followed Jerry who was following Mike who was following the rooster. At least I hoped it was a rooster. Looking back, it seemed we spent half our time running through the briers and cockleburrs, trying to flush those cackle-brained ringnecks. We must've looked like something out of the Keystone Kops. The surprising thing was how often we were successful. It doesn't seem to make sense now, or be worth the effort, but there was nothing unusual about cornering a rooster in a patch of cover and booting him skyward. Maybe they just had a tendency to freeze after being chased awhile, and then if we stamped close enough to 'em, they took off. Of course, you sometimes had to run a couple of hundred yards, which could be why I don't do it anymore. As anyone knows, the birds are still doing their part in these shenanigans.

We caught up to this one, or rather Mike did. His head low, tail sagging, he edged into some thick stuff, paused, stood motionless as we panted our way



EVERYTHING IS SILENT. There's just the shadowy woods. Then the thunder. He's vanishing while you stand there unable to move. . . .

up. He never rolled an eye our way; he'd found the bird and expected us to be there.

Jerry jabbed a thumb toward the dog. "Go ahead."

"No, you take him. I had the last chance at the rabbit." He hesitated and I said, "Go on, I don't wanta try running him down again."

He moved in, the little L. C. Smith slanted casually across his body, and a moment later a pair of cockbirds scrambled skyward. The gun rose, spoke, and one long-tailed rooster tumbled before it reached its leveling off place. The other curved away in a bright line for what should have been an easy double. But the second shot never came, and I suddenly realized it wasn't going to, and I flipped the Remington up and fired, uselessly, at the vanishing ringneck.

"We shoulda had 'em both," I said glumly.

"Yeah."

"I was waiting for your second shot, I wanted to see you drop them both,

then I remembered you already had one. But it was too late."

"How it goes sometimes." Jerry's voice showed no disappointment, but it should have. Chances for doubles don't come every day—or every season—and it hurts to pass one up, particularly when the other rooster in your game pocket is truthfully only half yours. He took the bird, a full-grown, long-spurred critter, from Mike, slid it into his coat and pointed down toward the creek. "Let's work that way. Might raise him again."

But we didn't. Jerry got a squirrel and I collected a pair of rabbits, though, as we worked through a slashing, my second bringing a teasing comment, "You're sure tough on those ground-bound critters," from Jerry. He was right. I always enjoyed rabbit hunting . . . rabbit eating too. Fried a crisp brown in a heavy iron skillet, with plenty of onions, cottontails make better eating than any bird that flies, I believe. And scuttling through the layer of last year's oak leaves that drifted down among close-grown saplings, they were just as tough to hit as any gamebird, I told myself, as I dressed the second one.

Less Than Two Minutes

But that was an opinion I held less than two minutes, for moseying down an old tote road I came around a couple of hemlocks and flushed a grouse. That's a magic moment at any time, even in grouse country, which this wasn't. You know what I mean. Everything is silent. There's just the shadowy woods, touched here and there by a shaft of sunlight. Then the thunder. For a splintered heartbeat you're frozen. It seems forever. He's vanishing while you stand there unable to move. Then something unlocks and for once everything meshes and the muzzle blots out the target as you swing and it's all over in an instant.

Silence.

"Didja get him?" Jerry finally calls, hoping but fearful.

"Yeah." Your voice is carefully level

as you stroke the feathers smooth. "Yeah, I gottim." And another wonder—you even beat Mike to where he lay breast up on the leaves.

"Swell!" Jerry hurried over to admire the grouse and even Mike showed some interest. "I heard him blast off but never saw him. That's really something. I never saw a grouse around here before."

"Me neither." Reluctantly, I fitted the bird into my game pocket, shoved a shell into the Remington.

"Swell," Jerry repeated. "Well, let's work down along the creek, okay?"

"I'm ready to wrap it up."

"Huh?"

"I'm ready to go home. A shot like that's good enough for me to call it quits on."

"Maybe you're right. But we gotta get back to the car, so we might as well nip through that thick stuff in the bend of the creek."

"I guess you're right. But I hope I don't see anything."

Jerry laughed and we angled down

toward the Chillisquaque. I didn't see anything, either, but he did, a mallard drake that had been idling in the slack water. Its green head flashed in the sun as it cleared the weeds and Jerry took it cleanly, and Mike brought it back.

"That sure does make a mixed bag," Jerry said. Three rabbits, two roosters, a grouse, a squirrel and a greenhead. Makes my mouth water to think about it all."

"That's for sure," I agreed.

I've thought a lot about Jerry's clean kill of the greenhead in the years since, and been glad he made it instead of quitting on my grouse as I wanted, for that was the last shot I ever saw him make. Before the next season came around our country was at war, and soon both of us were in it. I came home but Jerry didn't, and even Mike was gone by then, and hunting hasn't been the same for me since. But now and then, in a quiet hour, I still think about the last day along the Chillisquaque.

Waterfowl Hunters Needed for Study

Cooperation by waterfowl hunters is needed in a study aimed at finding means of increasing native waterfowl populations on the Susquehanna River. The Pennsylvania Cooperative Wildlife Research Unit and the Pennsylvania Game Commission are studying waterfowl management on the Susquehanna from Sunbury to Harrisburg.

An important part of the 1971 study will be a survey of hunters and a collection of duck wings during the fall duck and goose seasons. This will be done through direct correspondence with cooperating hunters and through the use of self-registration boxes at boat launch ramps in the area.

Sportsmen who hunt ducks in the Susquehanna River area between Sunbury and Harrisburg who would be willing to cooperate in the study should send their names and addresses to: Waterfowl Study, Pennsylvania Cooperative Wildlife Research Unit, 113 Ferguson Building, Pennsylvania State University, University Park, Pa. 16802.

Slow Multipliers

The life span of the sperm whale is estimated at 75 years. The female does not reproduce until the ninth or tenth year, and she usually produces only one calf every four years.



Jim Koeve

For a Year the Hunter Had Dreamed of Another Successful Deer Hunt. Now He Was Back at His Favorite Stand, and Through the Wet Snow He Thought He Could See a Buck Approaching His . . .

HIGH ROCK CROSSING

By John Crowe

THE BARREL gleamed softly in the firelight. The oiled walnut stock felt smooth, like velvet. It was indeed a rifle to give pleasure to the eye and hand. For the tenth time that evening, the man lifted the rifle to his shoulder. It swung into position easily. He did not see through the sights what was there, but rather a deer running among trees on a mountainside. The man smiled contentedly. In the morning, perhaps, he would not need to imagine, for deer season was to begin then. In the keenness of his anticipation, his heart beat faster.

Not many hours afterward, when the man stepped from the cabin into the still-dark woods, the air was chill with the threat of rain or snow. He smiled, undismayed. The others could hunt near camp; he had chosen to cross the ridge to the head of Big Laurel Creek, where he had downed a buck the year before. It had been his first, and the thrill had got into his blood, burning as an impatient fever that had made the intervening year too long. Now the waiting was at an end.

At the shelf of the mountain, the hunter quickened his stride as the trail became less steep. Soft moss under damp leaves gave his walk a spring. The alarmed snort of a deer came through the darkness. In excitement, the man gripped his rifle more tightly. This was the life!

On the ridge, faint light was discernible in the east. As it heightened, the hunter came to the pan above Big Laurel. Only under the hemlocks did

the mystery of night remain. Moving rapidly, urged by a suspense that only a deer hunter can know, the man came to High Rock. He was proud he had found it unassisted.

From it he could see both sides of the hollow and the crossing at its head. For a stand, he chose a place where his own outline would be inconspicuous. Old Jake, his guide of the year before, had coached him well. . . .

The Game Protector turned his car from the gravel road into a rutted lane. The headlights swept along a neglected fence and up to a weather-beaten house. Only a faint glow at the rear indicated that the place was inhabited. He walked around to the back, knocked on the door. "Jake!" he called. "Open up!"

Cuppa Coffee

The door swung precariously inward and an old man said, "Howdy, Warden. I reckoned it was you. Come on in and have a cuppa coffee."

"Mornin', Jake. You guiding today?"

"Nossir. You know I ain't guidin' till I get my own self a deer."

"Pleasure before business, eh?" The Game Protector looked about the room. Jake's rifle lay across a worn canvas hunting coat on a table. "You're not wearing that?"

"I reckon so."

"Opening day? You can't go into the woods in that coat. It's more the color of a deer than a deer is. What'd you do with the fancy coat that fellow

gave you last year? The one with the orange lining you could wear outside if you wanted to?"

Jake looked up from his coffee. "I give that to my neighbor—for ten dollars, that is. Didn't like the color. Figgered it'd be awful noisy in the woods, too."

The Game Protector went out to his car, returning with a brilliant orange vest. In spite of Jake's protests, he insisted it be placed over the old man's hunting coat.

"Great goshalmighty," Jake com-



"GOR," JAKE COMPLAINED. "Them deer'll see me a mile away. But secretly he was pleased by the young Game Protector's attention.

plained, "them deer'll see me a mile away." Secretly, he was pleased by the Game Protector's concern, although firmly disbelieving his assurance that to deer all colors were much the same. He had known the officer for many years; that the younger man might know something about deer that he did not never occurred to him.

On his stand at High Rock, the man loaded his rifle carefully, twice making sure of the cartridge in the chamber. To him, the metallic chuckle of the action was music. An inheritance of hunting instinct from distant ancestors stirred within him. He was ready!

Sounds of the first shots of the season came faintly. Men were moving into the forest from roads and highways, perimeters of the wilderness area. For three days, the year before, he had stood on this watch at High Rock crossing. High Rock meant a long walk in; a deer taken there meant a long drag out.

Best Crossing

But old Jake had said, "Stay there, and you'll get a chance. Best crossing on the mountain."

The old man's statement had been justified once; the hunter was confident that it would be again. A blue-jay in erratic flight through the trees drew his attention. The bird settled on an ash sapling, then flew off with strident call as its quick eye caught the alien presence by the rock. A red squirrel, perhaps alarmed by the jay, chattered sharply as it ran to hiding. Almost at the same instant the hunter heard a deer.

He turned toward the sound, raising his rifle slightly. The animal was bounding along. With difficulty, the hunter controlled his excitement, realizing it was a doe. It was the first of a dozen deer which went by on the crossing that morning; not one had the antlers necessary to make it legal. The hunter was not discouraged, but his initial optimism was slowly being replaced by anxiety not altogether pleasant. A wet snow began to fall.

After the Game Protector had gone, Jake put on his hat and coat, picked up his rifle, and started back through the neglected orchard. It was not yet light, and Jake wanted to get into the woods before his neighbor might see

him. He was very conscious of the flaming orange vest; he did not care about hunters from outside, but his neighbor might think he was going peculiar.

Once in the woods, Jake angled swiftly uphill. Daylight was full when he reached the comparative level of the top. Now his whole attitude changed; he became as furtive as a shadow and almost as silent. For a long time he loitered along a slight ridge, heavily grown with laurel. Jake knew the ridge extended to a hogback skirted by a road; deer disturbed on lower ground would move along the cover to the higher plateau behind him, a plateau which fell away at the head of Big Laurel Creek.

Chance at a Buck

It was well after noon when he had a chance at a buck he wanted. Several deer were approaching. Jake faded into obscurity against a stub, watching them through the rain and snow. The deer were scattered all about him when the first, having passed to leeward, broke into a run, alarming the others.

The last of the group was a buck. Jake saw it only briefly, yet enough to know the rack was good. At his shot, the old man thought the animal faltered; he had no time to fire again before it disappeared in the thick laurel ahead.

"This blasted orange stuff," he mumbled. "Bet it scairt them deer so I didn't have a better shot."

He found hair and blood where the buck had been. The trail away showed marks of dragging, as if a hind leg had been hit.

"Ain't goin' far, I reckon," said the old man, aloud; "I'll wait him a spell."

After some time, Jake set out. Occasional spots of blood and traces of dragging made trailing easy enough. He did not hurry, but increasing snow made him anxious. The trail led into a thicket of hemlock; in it the deer might lie down. Very carefully Jake



A RED SQUIRREL, perhaps alarmed by the blue-jay, chattered sharply as it ran into hiding. Almost at the same instant the hunter heard a deer.

eased along, hoping to come up to the buck for a final shot.

His plan might have been successful but for several does which broke noisily away. The old man had glimpses of these deer, but not his buck. Yet at one place he found blood and hair where it had been lying.

"I know what scairt them deer," he muttered angrily.

In the shelter of a leaning birch, Jake took off his coat. Carefully he removed the orange vest, folding it into the game pocket of his worn and brier-shredded coat.

"I'll put it back on later," he said to himself; "wouldn't want to hurt that young feller's feelin's."

Toward Big Laurel

Again he took the trail. It led toward the head of Big Laurel. At the first sloping of the plateau toward the stream, the old man was disturbed to notice tracks of another man, also apparently following the wounded buck. Evidently, the man was not far ahead.

Jake hesitated. "That guy," he grumbled; "I'll fool him." He moved rapidly at an angle off the trail. He thought the deer might rest again in the laurels near High Rock crossing.

If he could circle fast enough, he might intercept the buck there.

Jake had just come to the uphill edge of the laurel thicket when he heard a sound in the low growth directly ahead. He crept forward silently, easing along so twigs would not slap against him.

In the afternoon, increasing wind brought driving rain with the snow. For the hunter, time passed slowly as his clothes became sodden and uncomfortable. Only because his first deer had been taken in late afternoon did he stay at the watch. As the storm gathered violence, two does came by, walking, stopping now and then to look back.

The hunter scanned the laurel thicket from which they had come. Suddenly he was aware of another deer skulking there. He fumbled for his binoculars.

Out of Sight

As he focused, momentarily he saw antlers. Stealthily, the hunter lowered his glasses. As he did so, the buck moved out of sight. In an agony of suspense the man waited for the animal to come along the crossing.

A minute dragged by. Two minutes. He could hear only the rain and wind-shaken branches. Three minutes. Still the deer had not shown. The hunter could feel the blood pounding in his ears and throbbing at his neck against his tight-buttoned collar.

Then his straining eyes caught a movement at the distant edge of the laurel. Instantaneously, the hunter calculated his chance: a poor shot. The alternative: no shot.

Again the brown shape moved beyond the screening laurel. The side? The shoulder? The hunter could not be sure, but he pressed the trigger. At

the jolt of the rifle he lost sight of his target.

Peering through the laurel, Jake had just seen his buck struggle to rise to its feet and then fall back, motionless, when the crack of a high-powered rifle came to him from the direction of High Rock. He knew better than to move about in the thicket while someone was shooting nearby. He crouched down, silent and hidden. For minutes he waited, hearing nothing but the wind-rattle of branches and the beat of rain and snow on his hat and back.

"Help! Help!" A sudden, frantic cry came from the lower edge of the laurel.

Jake straightened, announcing his presence by shouting "Hello!" Then he moved down through the thicket. Before he had gone fifty feet, he heard someone crashing toward him. Then a frantic man, whom Jake recognized as one he had guided the year before, burst out of the thicket.

"I shot a man! I shot a man!"

"Dead?" asked Jake, who had a practical if not a theoretical knowledge of hysteria.

"I don't know. He looked just like a deer. Help me—please help me!"

"Okay. You're all right, ain't you? Quit wavin' that gun." Jake was stern. "Where is he? I'd sure like to see a man looks like a deer."

Moments later Jake was bent over the limp body which lay motionless on the ground at the edge of the laurel. It was his neighbor and he was dead. Evidently the shot had been immediately fatal.

And then Jake noticed the dead man's coat. It was the reversible Jake had sold him. His neighbor had put it on with the bright orange inside.

Jake felt a sudden chill, but not because he was cold.

Seems Like Enough

Wild turkeys usually have only one brood a season, but it can number up to 25 poults.

Another Dynamic Duo

By Nick Sisley

READERS MAY recall that last fall I had a story in this magazine about one of my days afield in 1969 when I was lucky enough to bag a limit of ruffed grouse and a limit of ring-necked pheasants. The story appeared in the November, 1970, issue, and was entitled, "The Dynamic Duo."

I had many great days of bird hunting in Pennsylvania during the 1970 season, too, but one stands out in my memory—the day my game pocket was heavy with a limit of yet another "dynamic duo" — five woodcock and a brace of ruffed grouse. As with the earlier hunt, I got the idea for writing a story on this one early in the morning when I had only a woodcock or two bouncing in my pouch.

The habitat of grouse and ringnecks varies greatly. There are, however, many overlaps in the grouse and woodcock cover. But I don't go hunting for both of them at the same time. I hunt grouse in woodlots and reverting farms, and woodcock in alder bottoms. I seldom shoot at woodcock when hunting grouse, though I'll always take a poke at grouse when hunting woodcock. Grouse just are not that easy to come by. Early in the season I hunt woodcock only, unless I manage a limit of the little birds in the alder swales early in the day, in which case I go after Ol' Ruff in the afternoon.

Usually the woodcock have left my pet covers for warmer climes as the end of October nears. Then I hunt grouse almost exclusively (excepting a ringneck now and then) for the rest of the season.

The woodcock cover I had chosen for this particular morning, October 23, was undoubtedly my best one (no, I won't say where it is), but I wanted to try the opposite side of the creek from where I normally hunt. A huge alder flat lies on that side, and though



SISLEY IS HAPPY as a lark with a brace of fine grouse in his hands and a day's limit of timberdoodles in his lap. The Franchi auto helped.

the cover looks particularly inviting, I never had exceptional luck there.

The morning was dreary and dark. Though it was past shooting time, there was just light enough for bird hunting. I chose Janey, a year-old springer spaniel I was training, for the first cover. We didn't go far before she was jumping on her hind feet after a woodcock. I snapped off a shot and saw the blaze of orange shoot out the end of my barrel. I said it was a dark, dreary morning, didn't I?

It seemed like a good hold, though I did not see the bird after firing. I had the dog stay in close, looking for the bird. We both searched for several



THE RUFFED GROUSE is Sisley's first love among game birds, but on occasion he devotes some time to other species, such as woodcock.

minutes, but didn't find a feather. While we were looking, another bird went up, and for once it looked like this cover was going to produce, even though there had been no chance for a shot at the second.

At the next inviting patch, out went two more woodcock. No shooting again, but I was inspired by the abundance of birds. Well, I got my hopes up too soon, because for the next half hour or more I saw no woodcock, nor did I see any telltale chalk marks.

I was moving upstream alongside the creek, and just about the time the cover was ready to run out, the exuberant little spaniel put another bird into the air. I snapped a shot, and the bird dropped his feet straight down, the mark of a hard hit, but he kept on flying. I gave him my second load from the little 20-gauge Franchi autoloader that I use for both woodcock and grouse, and down he came. Janey made the find.

We worked on out to the end of the alders, away from the stream for about 75 yards, and then headed back through more alders toward our start-

ing point. Again it was a long dry spell. In fact, we were nearing the starting point before a timberdoodle flushed between the dog and me. A straightaway, and I muffed it. We followed this one up and Janey flushed it, but I never saw the bird. That was it. We worked the cover another half hour and then headed back to the car. I'd change dogs and try the other side of the creek where I usually found a lot of birds.

German Shorthair

This time I turned out a German shorthair, Cressa, that I was training for a fellow up in Michigan. We were not in the cover 10 minutes when I raised a bird and promptly missed it. It was one of those woodcock flushes when the bird only flies a short distance. I saw where it went down, and in my haste to get to the bird before the young shorthair flushed it (being a young, just-started dog), I rammed a stout twig under my glasses, resulting in a bad bruise right under my eye.

This could have been catastrophic, and it only proves that we should not get reckless while hunting. I did flush the bird and dropped it cleanly on the rise. Though the shorthair wouldn't retrieve this one, she showed me where it was. I pocketed it and we were off after the third. It didn't take long. She smelled it on the edge of the alders and flushed it right up the trunk. I can still see that picture of the dog and bird. I took this one cleanly, too, but we had a hard time locating it. Turned out it was right where I had figured it was, and we had been walking all around it.

That was three birds, and I wanted to get some bird action for the spaniel. I wasn't far from the Scout yet, so I returned and made the change. Stepping into a new part of the cover, I promptly flushed a bird—and just as promptly missed it. No matter, though, there were plenty in this cover. I followed this last one up, and the spaniel jumped it. It was a swinging

side shot. I rose to the occasion, and Janey made the find.

One more to go. We made a wide swing, and coming back near the spot where the third bird had gone up, bird number five tried his unsuccessful getaway. Janey was soon at the heel and we were headed for the car. I checked my watch. It was 10 o'clock.

I drove home, changed my soaking wet duds (it had rained a little during the night and intermittently during this hunt), and had a good lunch. Having shot five wild birds over Janey and Cressa, I put them in my backyard kennel and took out a young female setter and my broke setter dog for the afternoon grouse hunt.

The sun had appeared about the time I limited out on woodcock, but by the time I entered the grouse woods just after noon, it was heavily overcast again. Being a cooperator on the Game Commission's grouse survey, I always check my watch as I enter the woods to keep track of the time and the flushes.

Wide-Rambling Girl

I ran the young setter because I wanted to wear her down a little. She is a wide-rambling girl with a little too much energy. Del, my broke dog, is wide, too, but he keeps checking back with me during the course of a hunt. Usually I don't have to talk to him much. The pup was something else, though. I hoped she would stay in if I wore her down with lots of running. She was much too wide to run in the woodcock covers. I don't know about your covers, but my woodcock patches are far thicker than the areas where I hunt grouse.

The pup started off at her usual pace, which only encouraged the older dog to work out farther. However, most of the time I could hear both bells. I'd rather have had both dogs a little closer where they could check back in more often, but things are never ideal.

The area I had picked for grouse was in Indiana County, and the cover

was early second growth with interspersed pines. It was ideal habitat for the brown-feathered bombshell. I had hunted this cover for a couple of seasons now, and no doubt I would flush a few birds. It was ideal whitetail country, too, incidentally—but then, perfect grouse habitat usually is. Better have a deer-proof bird dog before you try him in these grouse covers.



FEW HUNTERS EVER see a woodcock in this motionless pose. Usually they're dipping and flickering away as he tries to bring his gun to bear.

I worked my way out along a side hill without raising a bird. I was heading for a section of grape tangles where I could usually depend on a flush. Almost to that spot, a bird buzzed out from my left, giving me a swinging shot. The leaves were still thick at this early date, and that's my excuse for missing. Does anybody need an excuse for missing a grouse, though?

I went in his direction, and that was toward the grape tangle previously mentioned. Don't know if it was the same bird or not, but toward the uphill side of the tangle, a bird got up. The little 20 barked once, and down came the king. Both dogs were well off, but the older fellow came running at the shot. When he arrived I was hotfooting it around, trying to pin down a wing-clipped bird. I got to



SISLEY'S DOGS ARE still excited by the birds, though they've already been brought to bag. Not every day is as full as this one was.

the bird just before the dog did, and was thankful of that. He's not the softest mouthed canine in bird dog-dom.

The young setter pup was headed my way, too. I called her on in, gave her a good whiff of the freshly killed bird and let her nip at the feathers a few times. Then we were off again. Only one more to go to fill out on the second half of this year's dynamic duo. As it turned out, it was a hard finish.

There was a long dry spell before the next grouse got up. The old setter should have been able to pin it down along the fencerow grape tangles we were working, but the best he could do was a flush. For a couple more hours we scoured those hillsides—and they're steep ones. Though wearing only my customary shell vest, I was soaked with perspiration. I counted 13 flushes for the grouse survey, but didn't get in another shot.

That's not to say I shouldn't have made a little shotgun noise, though. On one occasion, the older setter made

an unstylish point, and I was certain it was a false one. He moved on his own accord and got right into a batch of three grouse, and they all took wing. That made me angry, as you can probably imagine. We followed them up, and soon he was on point again, panting—an indication it was a false point or that the birds were far ahead.

Turned out the latter was true, but all good grouse dogs know you don't move after that first stop. My dog started to cake walk in, and on the first step a brace went up. I was just a little too far back—or was it that both birds immediately dodged behind trees? The dog was definitely at fault this time. I did tell you he was broke, didn't I? Truth is, it happens to the best of dogs—and men. He was having a bad day.

Shortly we were back at the car, headed for a nearby cover that can only be described as tops. Still wanting to play out the setter pup so she would get the knack of hunting closer to me, I turned her loose alone. She

took off on her first cast, and I never saw her until I returned to the car an hour later. Evidently she got lost, didn't know where I was, so returned to the vehicle.

During that time I only raised one grouse. This hillside was even steeper than the last. I could have wrung out my undershirt. I kenneled the pup in the dog box and got Del, the older setter, out. Even though he was having a bad day, he'd be better than having no dog at all—or would he?

His first two casts were too wide to suit me, and I had to bring him in. Then he started false pointing and—you guessed it. During one of those times he was pointing and moving up, he started a grouse. I heard it buzzing off. Disgusted, I sent him on for another bird find.

This time it was twice as bad. He made half a point, moved a step—and not one, but two, grouse went out. Disgusted even more, I put him to heel.

Walking at heel was fine with him. The day was hot, and he was tiring. I was hot under the collar because of the dog, but I can't hit a bull with an oar when I'm mad, so I tried to cool off a little as I trudged on up the hill to the place in the fencerow I guessed

one of those last birds might have headed for.

He was there. Del was still at heel at the time, and I was just about to turn the dog loose when the bird erupted from beneath a small tangle of vines next to a patch of gray dogwood. It was a lightning quick chance, but the little 20 found that familiar niche against my shoulder and cheek, and I heard the thumping of grouse wings in a field of high grass. Del took off for the bird right with me, since he had seen the whole spectacle.

He went past where the bird had gone down, and when I couldn't find it right away I called Del in for his olfactory help. He half pointed, then started making game. I hurried to the vicinity hoping to find the grouse before that hard-mouthed setter.

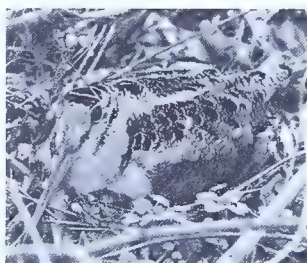
The bird was tucked under a tuft of grass, only a protruding tail feather revealing its presence.

I checked my watch. It wasn't quite 4 p.m. We headed for the car, tired, sweaty, and footsore, but with a feeling of accomplishment and satisfaction that made all the hardship worthwhile. A limit of woodcock. A limit of grouse. Another of Pennsylvania's dynamic duos.

Book Review . . .

Complete Book of the Bow and Arrow

Complete Book of the Bow and Arrow is G. Howard Gillelan's sixth book on archery. It's an encyclopedic reference on the subject, covering equipment, techniques, rules, skills, etc., for both hunting and target shooting with the bow. After making a claim for the bow as man's first true invention in weaponry, a short general history of its development is given. Then follow extensive chapters on modern gear: bows, arrows, quivers, sights, etc.; shooting form; the challenge and methods of hunting, both game and fish; competitive archery as an international sport; careers in archery; some speculation upon its future, and a lengthy section of references wherein are listed suppliers, excerpts from "The Archer's Handbook," FITA rules, addresses of state game departments, and related items. A highly useful volume for anyone interested in the sport. (*Complete Book of the Bow and Arrow* by G. Howard Gillelan. Stackpole Books, Cameron and Kelker Streets, Harrisburg, Pa. 17105, 1971. 320 pp., illustrated, \$9.95.)



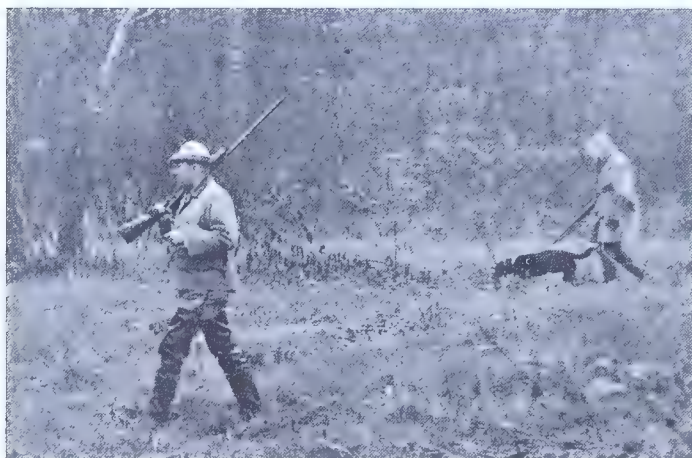
BEAGLES and rabbits just go together, everyone knows that, and sometimes in the alders a woodcock climbs and dips and twirls away.



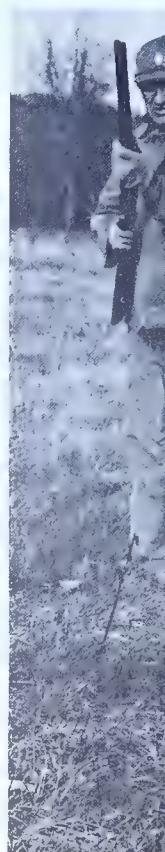
THE RINGNE
of many gunne

It's Hun

IF YOU HUNT IN month. Unless you trates on woodchucks afield. Small game sea the corn stubbles, cott big woods, plus such woodcock, turkeys, qu those hard-to-hit dove comes in this month late November this ye

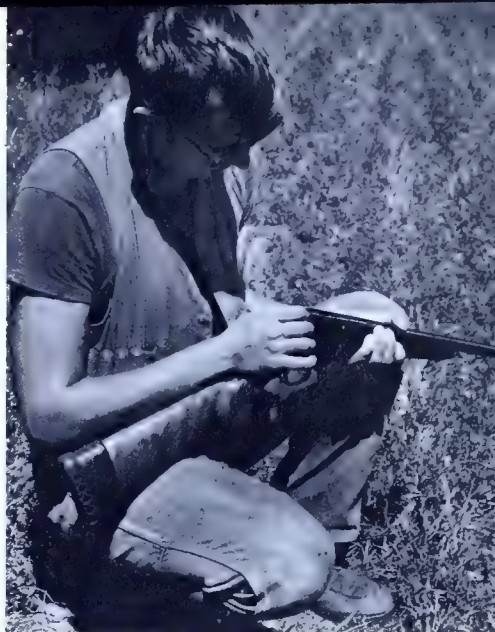


OFTEN, ONLY THE golden days afield are remembered, but sodden rains are common too . . . as are those still mornings on the Susquehanna.





JEFFREY MED-LIN, of New Cumberland, right, wonders how he missed that last dove. Below, successful turkey hunter hefts the prize that will make his Thanksgiving dinner.



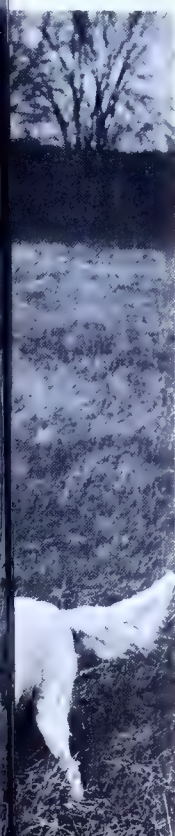
favorite gamebird of Pennsylvania.

me Again

nia, November is your specialist who concentrates the time you want to be peak, with pheasants in brambles, grouse in the d challenging targets as rrels, to say nothing of me hunters, bear season n deer season opens in e could any hunter ask?



DOG AND HUNTER prepare for quail's flush, left, while grouse hunters walk woods road, below.





FIELD NOTES

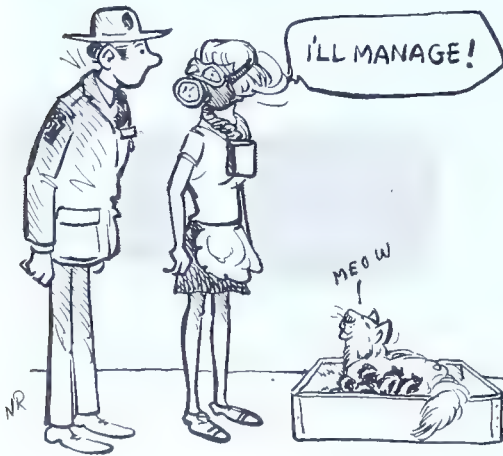


Can't Scare Him!

ERIE COUNTY—Cletus Troyer, a safety zone cooperator, is building a new home in Waterford. He has heavy equipment making a ditch to drain a beaver pond near the site. A big beaver comes out every time the machinery is working there, with sticks in his mouth ready to plug any opening the machine might make.—District Game Protector E. D. Simpson, Waterford.

How Much Over 16?

LACKAWANNA COUNTY — My wife recently received a telephone request for some information. The male caller wanted to settle an argument with his wife, as she wanted to hunt this year for her first time. The question was, would she be required to take the hunter safety course? When asked if she was over 16 years of age, his reply was yes. He was therefore informed that she did not have to take the training, although it would be a good idea nevertheless. His reply was, "I might have known—you women always stick together. Now I have to fix supper." He laughed, said good-bye and thank you.—District Game Protector T. C. Wylie, Moscow.



They Grow On You

SCHUYLKILL COUNTY — I received a telephone call from a Pottsville area resident, stating that their terrier had carried six strange animals to their house. Upon arrival at the residence, I found six newborn orphaned skunks then nursing with four small Angora kittens. When I returned three weeks later to check on them, the wife had decided to get rid of the kittens and keep the skunks.—District Game Protector F. M. Spancake, Pine Grove.

A Real Swinging Place

LANCASTER COUNTY—After this month, I can believe anything I hear in Lancaster County. To begin with, my neighboring officer, DGP Telford Fox, tried to make me believe he was trapping bear in Lancaster County (he was); then a gentleman called to tell me he shot a turkey which had no breastbones (he did); and at 7:00 a.m. a lady phoned to report a deer on her front porch in the city of Lancaster (there was). But luck really came my way when I received a report of a stolen road kill and found the "stolen" deer in the station wagon of a constable and State Policeman in plain clothes (they already had notified one of my deputies). Maybe I should get out of the other side of bed in the mornings. — District Game Protector R. E. Gosnell, Millersville.

Big Fellow

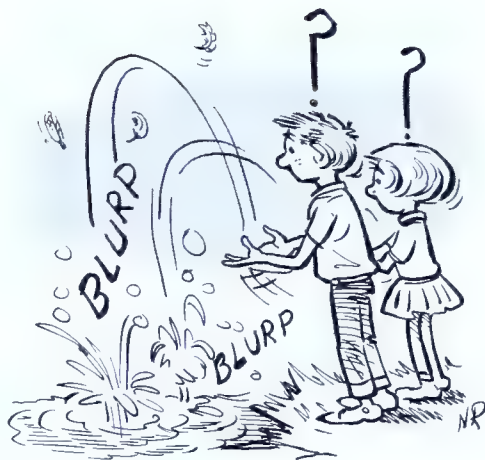
ADAMS COUNTY—Nathaniel Lucabaugh of Hanover reported trapping a 15-pound red fox near New Oxford. No record, perhaps, but for this area a rather hefty specimen. — District Game Protector J. J. Troutman, New Oxford.

Greed—Carelessness—Contempt

BEDFORD COUNTY—During the past three years I have investigated the following mistakes: 1. Shot in mistake for turkey—14 guinea fowl (shot on road in front of farm house prior to turkey season, too. All killed at the same time). 2. Shot at night—1 cow (another farmer had a calf disappear one night, he suspected foul play). 3. Shot within safety zone by woodchuck hunter—1 pony. 4. Deer season—1 goat shot (hunter, after jumping out of car, shot one goat, shot and missed second goat, all within 100 yards of house which was in plain view). 5. Shot—one turkey, white, tame, near farm house. Mr. Honest Hunter,—YOU had better get involved!—District Game Protector T. C. Barney, Everett.

We've Heard of Red Flags and Bulls, But—

BLAIR COUNTY — Farm Game Manager Troxell reports that on Farm Game Project 206 there is a ring-necked pheasant that does not like red tractors. Whenever the farmer goes out in the field with a red tractor, the pheasant charges the tractor, runs between the wheels, ruffles his feathers and puts on a fearsome show. If the farmer goes into the field with a green tractor the bird does not put in an appearance. Could this bird have been watching too many tractor commercials?—Land Manager J. A. Lukas, Hollidaysburg.



How's That Again?

WAYNE COUNTY—Don't believe all the cliches that you hear, such as "swims like a fish, eats like a horse, takes to water like a duck." Mrs. Joe Chinchar told me recently that the children raised ducklings which readily swam in a tub when they were very young. However, after they had grown, they were too large for the tub and were confined in a pen. Later, they were introduced to a nearby creek and promptly "sank like a stone" and, when rescued, "looked like a drowned pup." But all ended happily, after many tears shed by the kids, when the ducks remembered to preen their feathers with oil and they are now "bobbing like corks." — District Game Protector F. G. Weigelt, Galilee.

But Where's the Place?

CLARION COUNTY — Checking some choice locations in the county where I formerly located some extremely fine bucks, I find that our hunters didn't get all the trophies last year. In several places bucks were in groups of four or five, and the smallest of the bunch carried a rack of 8 points.—District Game Protector A. N. Pedder, Clarion.



Better Safe Than—

CLEARFIELD COUNTY — Alan Shaffer, of DuBois, tells of a friend who, while on a hike in the woods, discovered what he thought to be an unexploded guided missile. The friend notified local police officials. In short order, a convoy of Army personnel, including several bomb specialists, converged on the area, found and “dismantled” a . . . (Would you believe???) *wood duck nesting box!* In defense of the friends, I am told the nest was the metallic cone type and was hanging upside down. Anyone can make a mistake, right?—District Game Protector G. H. Zeidler, Rockton.

Watches Tarzan Movies

LUZERNE COUNTY—Recently I was asked to present a program to pre-school children at Bible School at Ferrwood in Drums. I took several films, mounted specimens and pelts. One bus was late so we waited and during this time several of the youngsters were handling and discussing the pelts with some—but not all—of the identification being correct, as shown by one little girl who picked up a beaver pelt and exclaimed, “I know what this is, it’s a gorilla skin!”—District Game Protector R. W. Nolf, Conyngham.

Help From Nonresidents

CLEARFIELD COUNTY—Recently I had the pleasure of working with some nonresident hunters who had made a pre-season hunting trip to their camp. They were out for a drive one evening when they witnessed a Game Law violation. Instead of taking the attitude of, “That’s the Game Protector’s job, let him catch the violators,” they took time to get the license number from the violator’s vehicle. This information was immediately turned over to the Game Protector and led to the apprehension and prosecution of the violator for possessing two deer killed in closed season. This is the type of hunter I prefer to call a sportsman. We can use more people like this. — District Game Protector C. L. Keller, Clearfield.

Never Too Young—Or Too Old

WAYNE COUNTY—Wayne County is noted for its large summer camps for children. The vast majority are from large metropolitan areas and it is gratifying to note their interest in wildlife and environment. These children are in the 6-to-14 age bracket, and no age has a priority on interest. They show keen interest down to the most minute detail. Perhaps all is not lost. Now if we can just have them educate some of their parents.—District Game Protector F. G. Weigelt, Galilee.

It Was a Very Good Year

LUZERNE COUNTY — This year has been a great one for five of my “Daddy Deputies.” Mrs. Wayne Baer, a baby girl; Mrs. Stanley Sowa, a baby boy; Mrs. Raymond Condo, a baby boy; Mrs. Richard Walton, a baby girl; and Mrs. Angelo Anastasi is expecting this autumn.—District Game Protector T. Vesloski, Plains.

An Ape, Yet!

FAYETTE COUNTY—I have had several bears killed in closed season, several visits by bears in Connellsville, a couple of bear damage claims, and several nuisance complaints on bears in Fayette County before, but never did I have such excitement and interest in bears as when I recently picked up a highway-killed bear on Chestnut Ridge just two miles out of Connellsville. While driving through town with the bear on the rack of my vehicle, I could hear remarks from bystanders on the street such as "There goes the game warden with an ape." The next day others who had previously reported seeing "black panthers" were now convinced they saw bears.—District Game Protector A. J. Ziros, Connellsville.

A Little Disappointment

CENTRE COUNTY—I got a call from a woman in Millheim recently concerning some rabbit damage in her garden. I took a trap up to her and it wasn't too long until I received a call saying that she had caught a rabbit, wouldn't I please come up and take it out of the trap for her. The woman was rather embarrassed when, with all of her neighbors watching, I took a chipmunk from the trap instead of a rabbit.—District Game Protector G. F. Mock, Coburn.

Oooh!

LUZERNE COUNTY—Pete Latona of Pittston watched a rabbit sitting on a curb at a busy intersection in Exeter. When the light turned green the rabbit ran safely across to the other side. Pete doesn't know it, but the rabbits over there are "Ex'ter Smart."—District Game Protector T. Vesloski, Plains.

We Never Said It!

LYCOMING COUNTY — Deputy Bob Shearer recently found out why Game Protectors are sometimes called "Bunny Cops." Bob was driving to town one evening when he spotted a large tame rabbit running around in the woods near his home. Having seen an ad in the paper about a "lost rabbit," Bob got out and coaxed the rabbit into his car. He then looked up the ad and returned the rabbit to its owner. Who said Game Protectors are mean?—District Game Protector R. G. Clouser, Williamsport.



Still Looking

BERKS COUNTY—A riding academy in Cumru Township reported the loss of a newborn colt. The mare was standing alone in the pasture, and the owner insisted she would never leave the foal. He found tracks on a nearby riding trail which he said had to be the tracks of the cougar that had been reported in the area from time to time. But by the time I reached the academy the foal had been found in a nearby barn. The "cougar" tracks had been made by his neighbor's dog when they rode through the area the previous day. Everyone was happy, but I'm still wondering who will be next to see the cougar.—District Game Protector J. A. Leiendecker, Reading.



CONSERVATION NEWS



By Ted Godshall

Stop at a Deer Check Station

SIX DEER CHECK stations will be in operation in Pennsylvania this year, according to Dale E. Sheffer, Chief of the Division of Research. This is an increase of two over last year.

A great deal of information which is invaluable in improving deer hunting in the state is collected at these stations; therefore, it is hoped that every successful buck hunter who can stop at a check station will do so. Examination of these deer reveals the conditions of the herd in various regions of the state, the condition of the range, the age structure of the herd, etc. This helps the Game Commission set seasons and bag limits to provide optimum sport for the greatest number of hunters. The check stations will be located as follows:

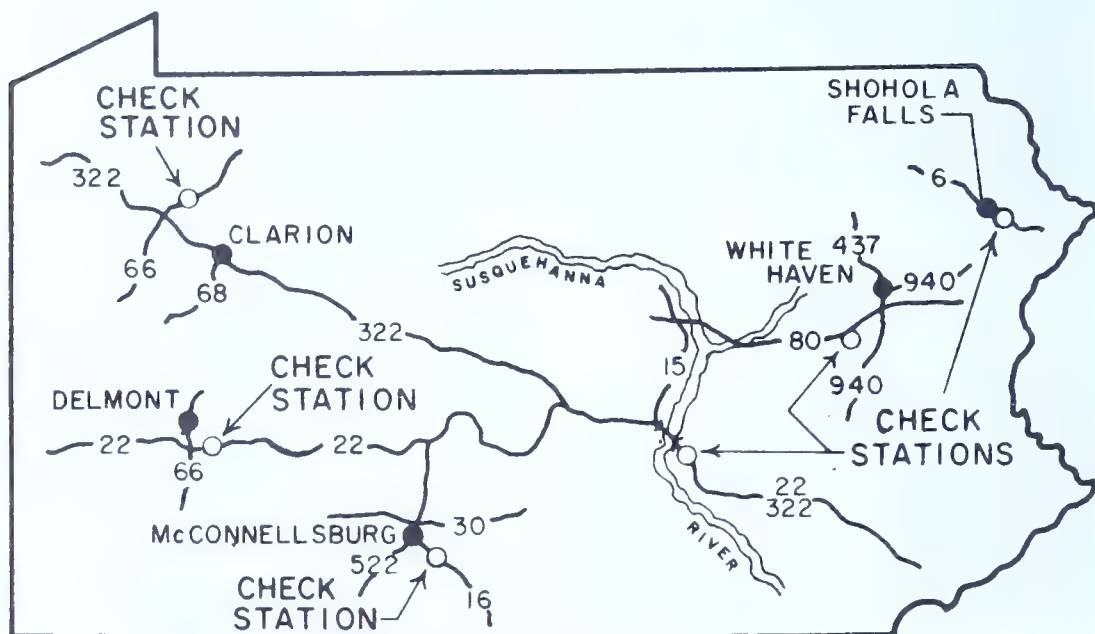
The northwest station will be on Route 66, about three miles north of its junction with Route 322, on the road to Lucinda.

The southwest station will be near Delmont, on Route 22, just east of its intersection with Route 66.

The central station will be 13 miles north of Harrisburg on Routes 22 and 322, just off the east end of the Clarks Ferry Bridge.

A new station in the southcentral part of the state will be on Route 16, southeast of McConnellsburg on the Fulton-Franklin County line.

Two stations will be operated in the northeast, one at the roadside rest on the eastbound lane of Route 80 about 2½ miles west of White Haven, the other on Route 6 at the Shohola Falls recreation area parking lot.





The Delmont, McConnellsburg and Shohola Falls stations will operate Monday through Wednesday of the first week of antlered deer season. The Clarks Ferry Bridge, Clarion and White Haven stations will be operated Monday through Saturday of the first week.

Again we ask that all successful hunters stop at a check station.

PGC BIOLOGIST Arnie Hayden checks teeth of nice white-tailed buck to determine its age. Much information is gathered at deer check stations.

Trapping Seasons to Open

The 1971 trapping season for mink and muskrat will open at 7 a.m. on Saturday, November 20, and continue until noon on Sunday, January 30. There is no limit on the number of mink or muskrat which may be taken. Beaver season will open on February 5, 1972, and end on March 5, with a daily limit of three, season limit three, except in Susquehanna and Wayne Counties where the daily limit is six, season limit six.

Books in Brief . . .

This Dying Land, by James Johnson, Dorrance & Co., 1809 Callowhill St., Philadelphia 19130, 1971. 40 pp., \$3.00. The rural environment of a boy in the 1930s compared with that of his son in an urban community in the 1980s. Shows how man is destroying the world.

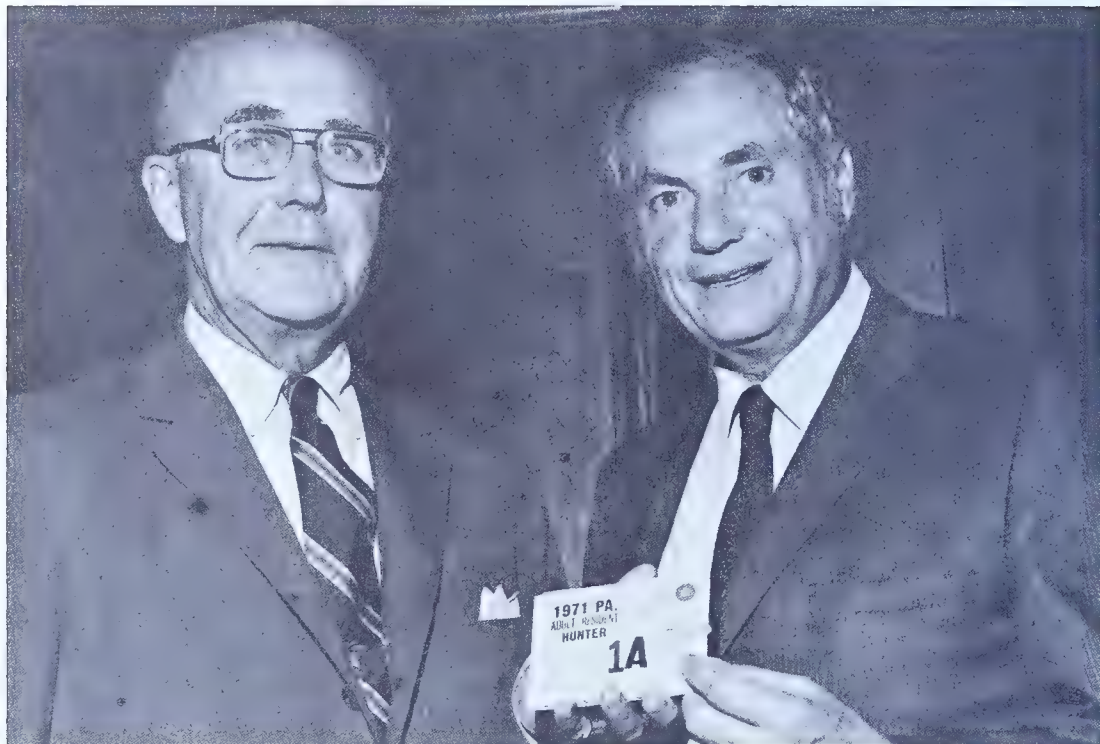
Our World in Peril, by Sheldon Novick and Dorothy Cottrell, Fawcett Publications, Inc., Greenwich, Conn., 1971. 498 pp., \$1.50, paperback. Twenty-seven articles show how technology is damaging the environment, six show how it might prevent further ruin.

Earth Tool Kit, ed. by Sam Love, Pocket Books, 1 West 39th St., New York City 10018, 1971. 369 pp., \$1.25, paperback. Suggestions for fighting pollution—methods of using the mass media, finding money and helpers, creating a public awareness, lobbying, etc.

Wilderness for Rent, by Roger and Cathy Mallon, Walker & Co., 720 Fifth Ave., New York City, 1971. 201 pp., \$2.95, paperback. Personal review of camping facilities in Connecticut, New Jersey, New York and Pennsylvania within a four-hour drive of New York City.

Ski North America, by Abby Rand, J. B. Lippincott Co., East Washington Square, Philadelphia 19105. 278 pp., \$5.95. An appraisal of the top 28 ski areas in North America with suggestions for planning a ski vacation.

Big Susque Country, by Del Kerr, Potter County Recreation, Inc., Box 245, Coudersport, Pa. 16915. 29 pp., \$2.00, paperbound. Detailed handbook of the Susquehannock Trail. With set of 19 trail maps, \$3.00. Maps alone, \$1.25.



GOVERNOR MILTON J. SHAPP receives number 1A hunting license for the 1971 season from **Edwin J. Brooks**, president of the Pennsylvania Game Commission.

SHOWN WITH DGP's Ernest Taylor and Jim Bauers are a few of the 550 4-H club members who met during the summer at Camp Blue Jay near Marienville. PGC personnel from Forest, Jefferson, Clarion and Venango Counties gave presentations.

Photo by William R. Wallace



YOUNGSTERS WHO ATTENDED Westmoreland County Junior Conservation School listen attentively to lecture on predator trapping. Also covered were natural history, game propagation, first-aid, trap shooting, survival methods and other subjects. *PGC Photo by CIA DonMadl*





TWO FORMER STATE CHAMPIONS, Harvey Graybill of Camp Hill and Chester Lesh, Ickesburg, finished in a tie for top place in the 1971 Pennsylvania Turkey Calling Contest, the first time this ever happened. Thirty-six contestants from five states, including one from Mississippi, competed before a crowd of 2400. Winners, shown with Roy Trexler, Chief of the PGC's Division of Information and Education, were: Harold Lesh, 2nd place; Leonard Rosenbury, 4th; Graybill and Chester Lesh, tied for 1st; Gene Luckenbaugh, 3rd; and Leroy Speelman, Ellerslie, Md., out-of-state winner.

Nonresident Trapping License Fee Increased

Pennsylvania licenses for nonresident trappers will cost \$40 for the 1971-72 season. The legislation which increased fees for nonresident and alien hunting licenses also included a provision for higher fees for nonresident trappers.

A nonresident may not trap Pennsylvania furbearers under a nonresident hunting license—a nonresident trapping license is required. Nonresidents may not trap beavers. Those who wish to obtain a nonresident trapping license can do so only by applying directly to the Pennsylvania Game Commission, P. O. Box 1567, Harrisburg Pa., 17120.

Big Birds in Trouble

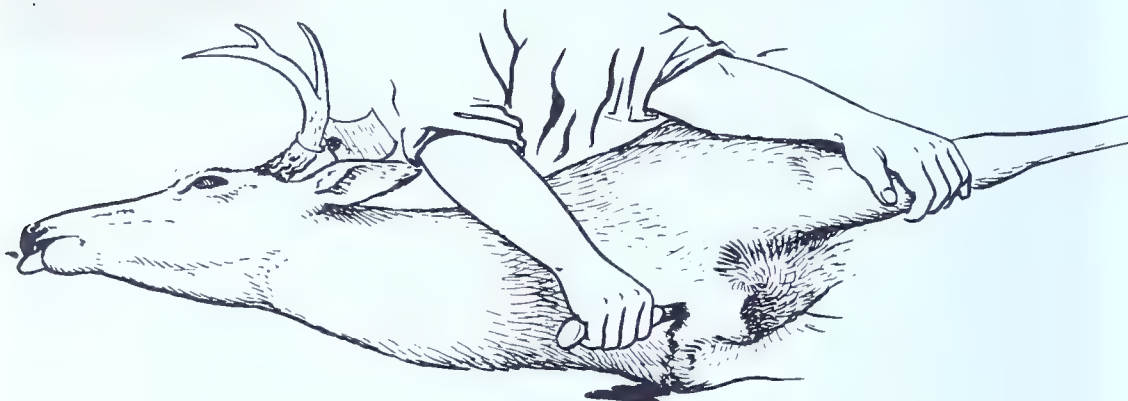
Field observers report that the black vulture, turkey vulture and California condor are being crowded out by civilization, with the latter bordering on extinction.

What Did They Learn?

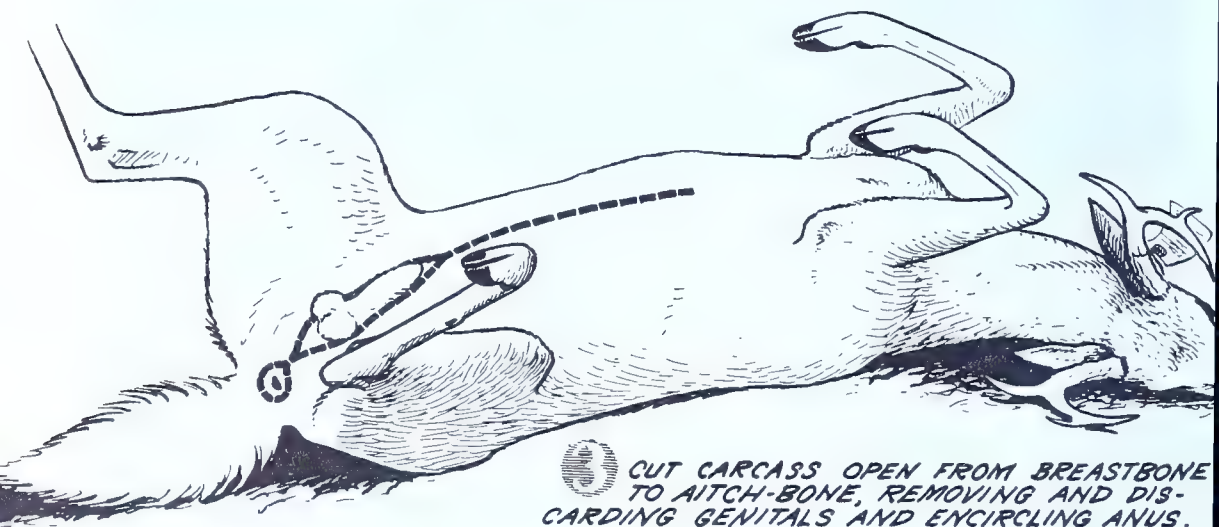
The federal government's first bird study was launched in 1885 when it sought to determine the effects of English sparrows on farming.

FOR Venison that's a treat to Eat

1 TAG YOUR DEER. YOU MUST ATTACH A BIG GAME TAG BEFORE CARCASS IS MOVED OR WITHIN ONE HOUR AFTER KILLING



2 BLEED BY SEVERING ARTERIES IN NECK. IF HEAD IS WANTED FOR MOUNTING PULL IT UPHILL AWAY FROM BLOOD.

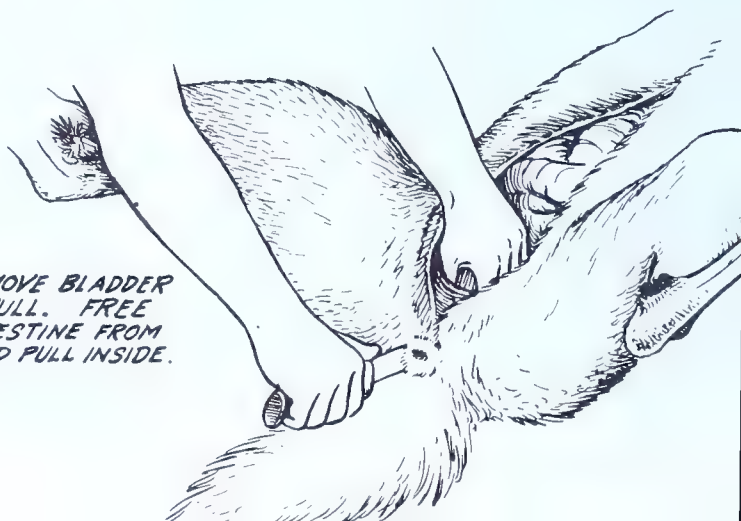


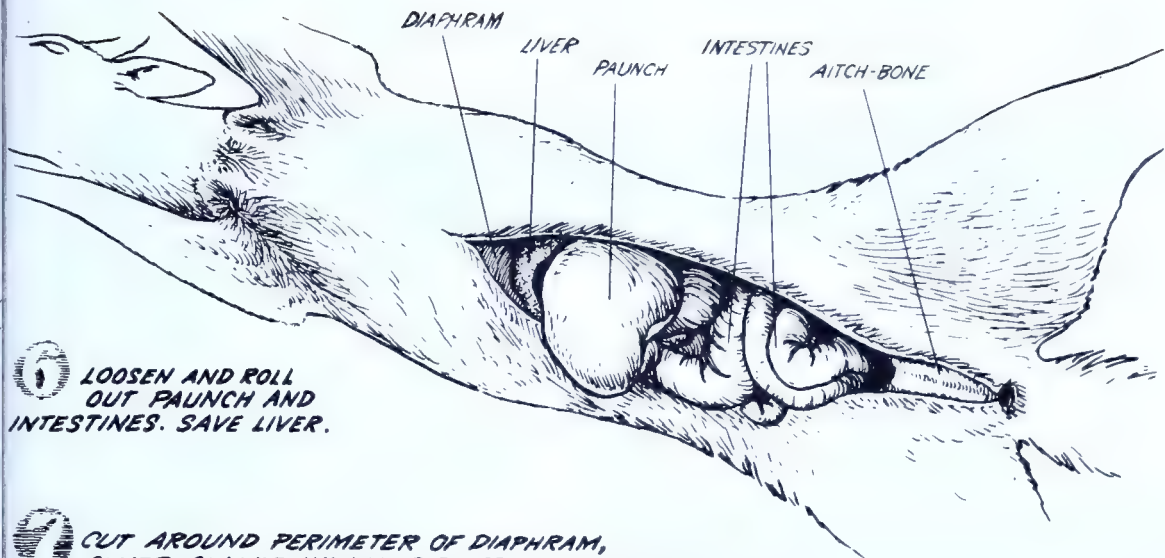
3 CUT CARCASS OPEN FROM BREASTBONE TO AITCH-BONE, REMOVING AND DISCARDING GENITALS AND ENCIRCLING ANUS.

4 WHEN OPENING DEER PRESS PAUNCH AND INTESTINES OUT OF THE WAY TO AVOID CUTTING THEM.



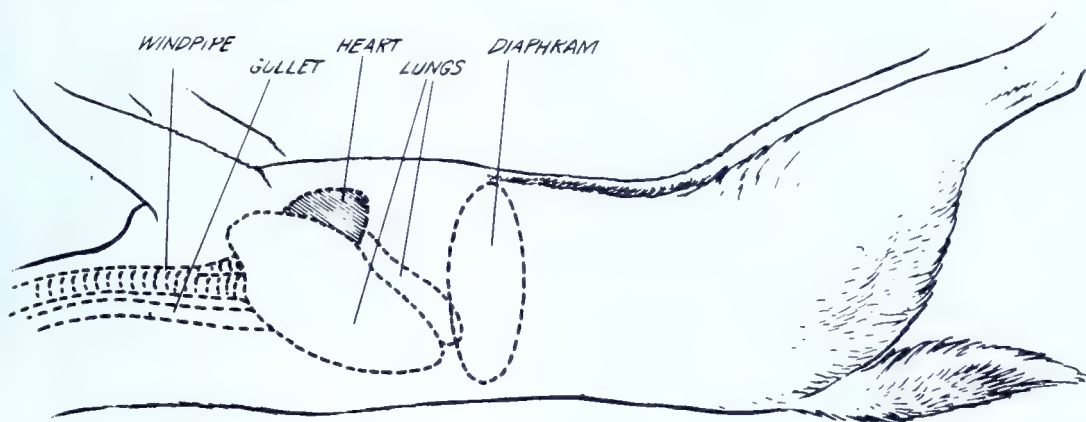
5 REMOVE BLADDER IF FULL. FREE LARGE INTESTINE FROM PELVIS AND PULL INSIDE.





① LOOSEN AND ROLL OUT PAUNCH AND INTESTINES. SAVE LIVER.

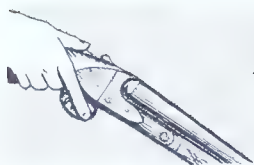
② CUT AROUND PERIMETER OF DIAPHRAM, SEVER GULLET AND WINDPIPE AS FAR FORWARD AS YOU CAN REACH, AND WITHDRAW ALL ORGANS FROM CHEST. DRAIN EXCESS BLOOD FROM BODY CAVITY.



③ LIVER, HEART AND KIDNEYS ARE GOOD EATING, AND CAN BEST BE CARRIED IN A PLASTIC BAG.



④ TO DRAG OUT DEER TIE ONE END OF ROPE AROUND ANTLERS (OR AROUND NECK IN THE CASE OF AN ANTLERLESS DEER) TAKE A HALF-HITCH AROUND THE UPPER JAW AND TIE A SHORT STICK TO THE OTHER END FOR A HANDLE. SOME HUNTERS CROSS DEER'S FOREFEET BACK OF HEAD AND TIE.

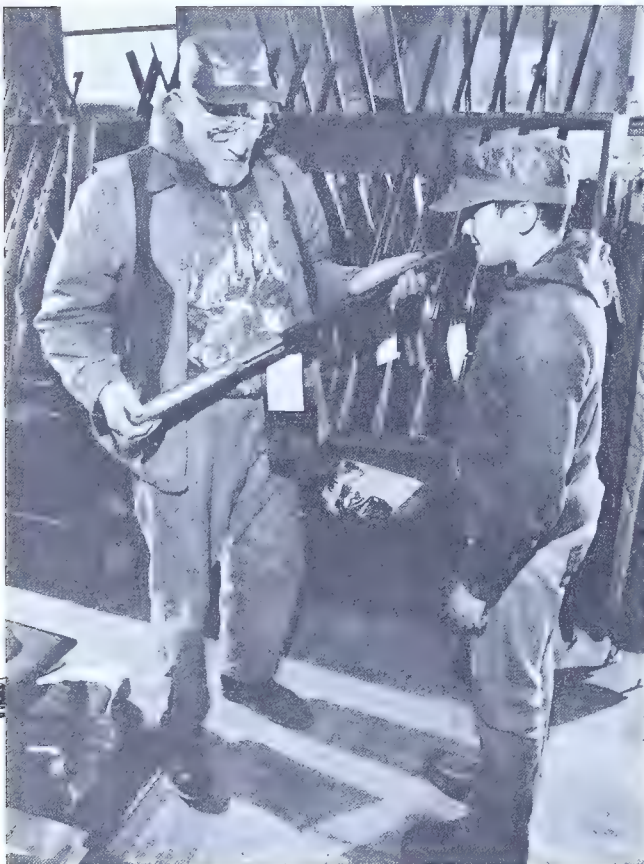


HUNTER SAFETY EDUCATION



By John C. Behel
PGC Hunter Safety Coordinator

Take a Boy Hunting



A HIGH POINT OF a youngster's life is the day he gets his first gun. Proper training in its use should be given before he carries it afield.

I KNOW YOU have heard the slogan "Take a Boy Fishing." Through this encouragement, many youngsters have been provided the opportunity of getting outdoors and gaining from association with an outdoorsman experiences which otherwise would not have occurred. The other half of that opportunity which interests youngsters—

hunting—should not be forgotten. So I say, "Take a boy or girl hunting." We all know guns fascinate boys, but many don't realize girls too are interested in them. Many girls participate in hunter safety training in order to get their first hunting license. Likewise, many girls and adult women participate in hunter safety programs to get a basic knowledge of what to do about guns in the home. Schools include hunter safety for all, feeling that since most homes contain sporting arms, familiarity with them is important knowledge—gun handler or not.

A Long Forgotten Experience

Take a boy hunting and you will relive an experience long forgotten. You will see the woods, streams, wildlife, trees, and all outdoors in a new light. You will find you have forgotten something you once thought you would never forget. Once again you'll thrill to the clean air, be startled by the explosion of a ruffed grouse from its hiding place in brightly colored leaves, the ghostlike appearance of deer in single file as they make their soundless way through the forest. Your senses will come alive as you once again wonder at the quiet and beauty of a forest covered with new fallen leaves.

Remember how you could hardly wait until you were old enough to go along hunting with your dad, and the thrill of carrying his gun out to the car? How you used to watch for him to come home, how you helped clean

the game and gun? The fun you had with empty shells, squirrel tails and pheasant feathers? Well, I do, for that was my part of hunting while I anxiously waited for my turn. I also remember the opportunity to go with someone else when my dad couldn't take me. This pleased me, because it gave me the feeling that I was a good hunter or I would not have been asked.

The first road to safe hunting is a good background knowledge of guns and ammunition and target shooting. I had traveled this road and was trusted along with my guardian when I got the opportunity for additional hunting trips. And I will tell you this, there were other good woodsmen and good hunters among our companions who provided those times to hunt when staying home could have been the alternative.

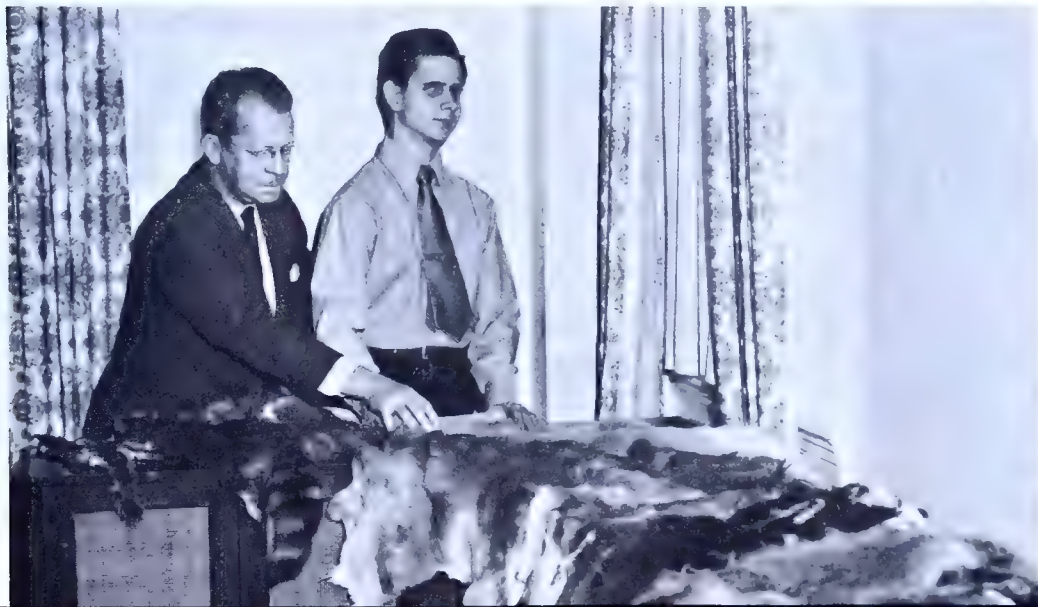
It isn't necessary for your boy to be able to take his gun apart blindfolded as you did in the Army, but he should know the basics of how rifles and shotguns function, what ammunition to use, the location of the safety,

and how to care for sporting arms. Proper hunter-landowner relationships and sportsmanship go without saying, for they are part of the practices of a good hunter. So long as you have the boy's undivided attention, you can remind him that the safety is only a supplement to proper gun handling. Since it is designed to keep a gun from firing, the safety is the most important device on both rifles and shotguns. When the gun is loaded, the safety must be on at all times until ready to shoot. But no hunter should totally depend upon it to make the gun safe. Safeties sometimes fail.

If you take a boy hunting and show him improper gun handling and unsafe hunting practices, or if you disregard landowner-sportsman relationships, you will not only endanger both of your lives, but also in many cases adversely influence his hunting forever. Let him never forget that proper gun handling, safe hunting, and adult responsibilities are as much a part of hunting as the gun itself. So take a boy to a hunter safety class and then take him hunting—safely.

HELPED BY DR. M. GRAHAM NETTING, Director of Carnegie Museum, Terry Stang gets a "fingertip" look at tanned skins of Pennsylvania mammals presented to the Western Pennsylvania School for Blind Children by the Museum and the Pennsylvania Game Commission.

Photo by Leo T. Sarnaki, Carnegie Museum





It Was a Good Day

By George R. Scanlon

HE WANTED to run with the pack, but he was too young and I wanted him to learn a few things first. He could handle a gun and he was quick . . . maybe a little too quick with other boys around.

It's pretty rough for a 14-year-old to be stuck with the old man while his brother, not much older, gets to hunt with the guys. I'd have to show him Dad wasn't the worst guy in the world to tramp through the squirrel woods with on a crisp fall day.

We weren't in the woods ten minutes when I spotted a big gray about 200 feet away up a big oak tree. All I could see was his head, so I put that old single-shot 22 against a tree for support and slowly squeezed the trigger.

Tony let out a yelp and came crashing through the brush toward me. "What did you shoot at, Dad?"

"I just got a squirrel down there in that big oak tree, Tony. Not a bad shot for a broken-down World War Two veteran."

"Man, you couldn't *see* a squirrel that far away, let alone hit it." All the way down to the big tree he kept saying, "Man, nobody could hit anything that far away!"

I said a little prayer just before we reached that tree, and sure enough there was that big gray on the ground. The boy's eyes popped right out of his head. He picked up that squirrel and all he could say was, "You hit him, you hit him dead center, you really hit him!"

"Well, doggone it, boy, I told you that right after I shot."

I tell you, it was worth a million dollars to see the look on that boy's face. I didn't really want to shoot that squirrel, but I had to prove to the boy that he could learn something from the old man.

And did he listen to me the rest of the day! He sat so quiet at one place that I fell sound asleep.

Tony got two grays himself before the day was out, bagging them cleanly with a careful shooting technique that showed he'd paid attention to my safety talks. I expect we're going to have a lot of fun together in years to come.

We could have had another gray, but I chickened out. Besides, I thought three were enough on this trip. A beautiful big squirrel ran right up to me and stopped, his mouth full of hickory nuts. You know, that old squirrel knew I had the drop on him and he stood there and looked me right in the eye. I shot two inches over his head and felt good about it. Tony nearly got him at that—he didn't know I'd wanted to miss—but he shot too quickly and Mr. Squirrel made it home.

At one spot in the woods we sprawled out with our heads and shoulders against a beechnut tree two feet thick. The ground was wet but we had on plastic pants and jackets so we didn't mind. Two robins, three blue jays and four wood ducks flew over the tree.

A small woodpecker 40 feet above us pecked at something, and when his beak hit the limb we could feel the sound all the way down the tree. That pecking noise came through that tree and we could feel the vibrations.

Two chipmunks came out to play and one came up beside my head and looked right in my ear. I blinked my eyes and that little fellow almost ran away from his stripes getting out of there.

It was so quiet the acorns falling



WE COULD HAVE had another gray, but I thought three were enough for this trip. I've never felt closer to my son than on this day, and I think he felt the same about me.

from those big oaks sounded like building bricks as they bounced off the limbs on their way to the ground.

We watched a leaf, trapped by its stem in a spider web, spin like a top, powered by a small breeze I couldn't even feel. The smallest spider I ever saw slid down his web and looked at me through my glasses. While I was looking at him, a mosquito started to drill on Tony's hand, but the boy bent his rig and he left.

The sky was beautiful through the trees. It couldn't make up its mind to be blue or black. Never did rain till late that night.

Tony and I spent the last half hour before supper sitting back to back. We didn't need to talk because, like the animals in the woods, we could communicate just sitting there.

We were supposed to be looking for squirrels, but that was only a pretense. I've never felt closer to my son and I think he felt the same about me. It was a good day.



TED THEM, CURWENSVILLE, AND HUNTING pal use gasoline lantern for extra light while drying clothes during rainy deer hunt in Kinzua Country last December.

Let's Have a Little . . .

Light on the Subject

By Les Rountree

NO MATTER HOW carefully he plans, it's for sure that some time in a camper's life he'll have to set up in complete darkness. In this situation, unless you are half owl, a light of some kind is called for. Readers of this department know that I am somewhat fascinated by flashlights. I have them in all colors and configurations and am constantly adding to my collection. When you really need a flashlight, lantern or candle you need it badly and there can be no substitute. I have at times prepared dinner over the trusty campstove or campfire with no other form of illumination, but it's not a pleasant operation. Campers need light.

Some traveling campers do not carry

a flashlight. I find this difficult to accept, but those who have done it for years claim that they get along quite nicely. If they have to fix a flat, cook dinner or set up a tent they simply fire up the friendly gasoline lantern and go to it. They claim that the light from a lantern is more foolproof than depending on flashlight batteries that may or may not have been fresh when installed. They may have a point there, but how about the problem of a broken mantle? Unless you remembered to pack several extras you are out of business right there. Mantle breakage is the constant companion of lantern owners. There are ways to cut it to a minimum and that involves packing the lantern carefully. Casual

tossing into the trunk or the back end of the station wagon is the surest way to fracture the thin filaments. A lantern should be set upright and packed around the globe should be something soft like a sweatshirt or rainjacket to prevent excess jiggling and bouncing. One friend built a styrofoam box lined with sponge rubber for his lantern and he claims he hasn't broken a mantle in three years. Astounding! I manage to break one almost every time I go camping.

Troublefree

Barring mantle difficulty, most lanterns on the market today are amazingly troublefree. If you purchase clean fuel and keep it in a clean can there really isn't much maintenance necessary. When you do replace the mantle, wipe off the tip of the burner, same as you would on the gas stove, and clean the globe. If you buy one of the sealed cans of stove and lantern fuel, you can be relatively sure of getting clean gas. If you buy in bulk and transfer it to a can of your own, it's a good idea to strain it through a piece of muslin. Dirty fuel is the biggest bugaboo of gas fired equipment. Never—I repeat, *never*—carry fuel of any kind in a glass jug or bottle. This is just asking for trouble. In addition to being completely unsafe, the broken jug means a smelly mess and no fuel. Metal two-gallon cans are OK but I prefer to transfer my fuel to a plastic ammonia jug. It won't break, dent or otherwise be destroyed. If it isn't left behind, one jug will last a long time. While I am against plastic store-packaging in principle, since they cannot be recycled, they should be used for something rather than discarded.



These bottles are also good to freeze water in and to use for cooling in the ice chest.

If your lantern is not equipped with a self-lighting attachment, by all means buy one of the "gun type" sparkler devices to light it with. This saves striking match after match on a damp day and eventually burning a finger.

Which lantern to buy . . . the gas model or the propane fired cylinder type? I still like the propane lantern because of the ease with which one



SOME LIGHTS, such as one on left, are rechargeable, have handy switch for flasher. Model on right uses a D cell battery.

may be refired. You simply stick in another can of fuel and you're in business. But following my own advice on trying to be a more ecology-minded camper, the propane cylinder is, after it is empty, just another piece of trash that we can do without. If your propane lantern can be used with refillable gas cylinders . . . great. If the model you have (or are thinking about buying) will accommodate only the throwaway kind, give it some more thought.

Double mantle lanterns are a good buy. These simply have a pair of mantles hanging side by side instead of one. If one mantle breaks, you'll still have some light in an emergency



UPSTANDING MODELS come in different sizes. All these have flasher domes, two in red, the one on right in amber. Useful in an emergency.

situation. They do provide more light at only slightly higher fuel cost. I don't own one yet but that will be my next investment.

How any outdoorsman can get along without having at least six flashlights is beyond me. The most common kind is the two-cell job that everyone thinks is in the glove compartment of his car. It seldom is . . . and if it is, it doesn't work. A flashlight that doesn't work is even more useless than no flashlight at all, since it's taking up space for no good reason. Check all lights periodically and especially just before you embark. Carry an extra half dozen batteries with you on a motorized trip and be sure to include an extra bulb of the right size.

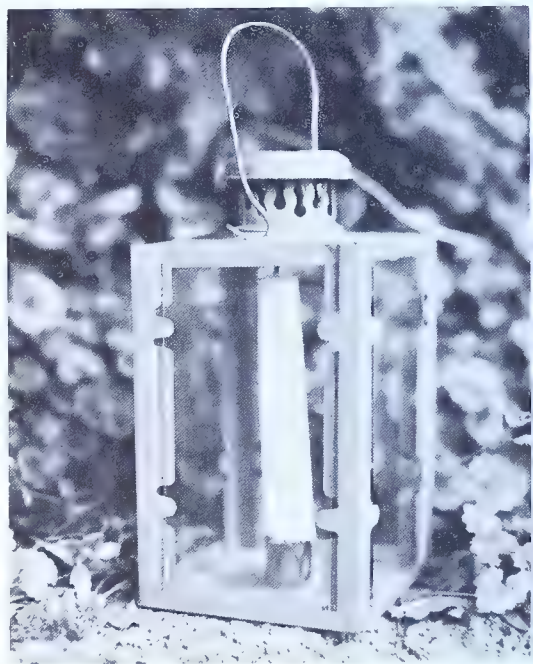
While the ordinary two-cell job is better than no flashlight, I've become partial to the flat plastic jobs that are more or less rectangular in shape. These usually require four or six batteries. In addition to being much brighter, they don't roll off the camp table. They can be aimed at the work area with the aid of a rock or piece of string, and usually have a convenient carrying handle. For flashlights, structural nylon and high intensity plastics are superior to metal. They won't rust or corrode and can't short out to the case. Many are also being made with a luminous ring around the lens that

makes it easy to spot the light in the darkness of the tent or camper.

The only trouble I've found with the square type lights that take more than two batteries is, unless you have the directions, putting in the batteries can be an engineering nightmare. I have one particular light that requires five batteries. To install these batteries in the proper sequence is almost impossible to do in even daylight . . . let alone at night when everything is going wrong. The more thoughtful manufacturers print the instructions on the inside of the case and even I have no trouble when they are so marked.

The big five-, six-, and eight-cell lights that State Troopers, coon hunters and other night types carry are excess baggage for the camper. They are unhandy, needlessly heavy and do nothing that the more compact lights won't do. The long jobs will rust, corrode and otherwise have a useful life of only about a year. Much less, if you've been around salt water.

The two-cell tubular light is fine in some situations and I have several of



MELLOW, PLEASANT light is provided by candle in this windproof "lamp." Its soft glow makes a tranquil camp when not a lot of light is needed.

them. They fit into a glove compartment well and as an extra light in the trunk or tackle box, they are perfect. This style tucks handily under the armpit for emergency work when you need both hands and there is no one close by to hold the light for you.

For the hiker or backpacker who must consider weight, not one of the above mentioned lights is satisfactory. Ounces matter when you are carrying all of your temporary belongings on your back or in your pockets. A small dependable pen light or something similar is called for here. Some time ago a reader sent me an official Cub Scout flashlight. It is rectangular in shape and weighs less than five ounces. It takes two pen light batteries and can be flipped on with one finger. A little plastic shield protects the bulb and when the shield is snapped open the light comes on. A dandy little light, and since I received it, I've bought three of them. They are just right for backpacking and also handy in the car for map reading, since the dome light in most cars is usually either poorly placed or too weak.

Rechargeables

Another good but expensive type of light is the rechargeable. These are excellent lightweight flashlights, but like the battery powered jobs you must remember to keep them charged up. In the case of the rechargeable models you must plug them in to 110v AC current periodically to keep them working. The idea is fine but I have yet to find one that will last more than two hours without showing some signs of weakness. At the first sign of dimming there's about one minute left and then total blackout. I've been told that more recently introduced lights will last three times as long as this before recharging is necessary.

In these days of more frequent power failures, every home should have some form of emergency illumination. Flashlights, of course, should be handy and so should a gas or propane lantern. The cheapest and most



SMALL, FLAT MODEL fits comfortably into pocket, pack or belt carrier, scarcely causes bulge under edge of sleeping bag where it's handy at night.

reliable form of lighting goes back to medieval times . . . the candle. It is still fun and, if you're a bit of a poet, romantic to eat by candlelight. It's fun on camping trips too. But the candle's most important function is to provide light when nothing else will work or is available. They should always be in the home and on the camping trip. Stuck to a piece of cardboard and backed up with a piece of aluminum foil, they will put out an amazing amount of light. I remember seeing an illustration in the Boy Scout Handbook many years ago that showed how to make a candle holder out of a tin can. I made one and it worked well. Several outdoor suppliers offer a candle lantern that works beautifully on camping trips and is an interesting home decoration as well. They add a festive touch during the Christmas holidays and can provide an instant source of light if the power company temporarily collapses.

Candles are a must on backpacking trips. They weigh practically nothing and three or four candles will last for a month's worth of trail use. Be careful how you use the candle in a tent. Using some of the melted wax, stick it to the bottom of the inside of a tin can or drinking cup. Another method

is to use one thin finishing nail thrust up through a large wood chip or Y-shaped limb. Another candle holder is the inside of a skillet or pan from your cooking kit. The idea in all cases is to prevent an accidental fire in case you brush against the candle.

In the immediate area, the light provided by a small campfire can be used to accomplish most of the nighttime chores. For other jobs, like finding the zipper on the sleeping bag and taking a last look at the map before

tomorrow's adventure, some other kind of light is a most useful item.

In a really panic situation, such as looking for a lost hiker, a dropped contact lens or performing emergency first aid, a light on the camping trip becomes an absolute necessity. For outdoor illumination don't depend on a pack of book matches. Have at least one flashlight with you or in your camping kit. Know where it is and keep it freshly charged. Your life could depend on it.

Wildlife Habitat Lost

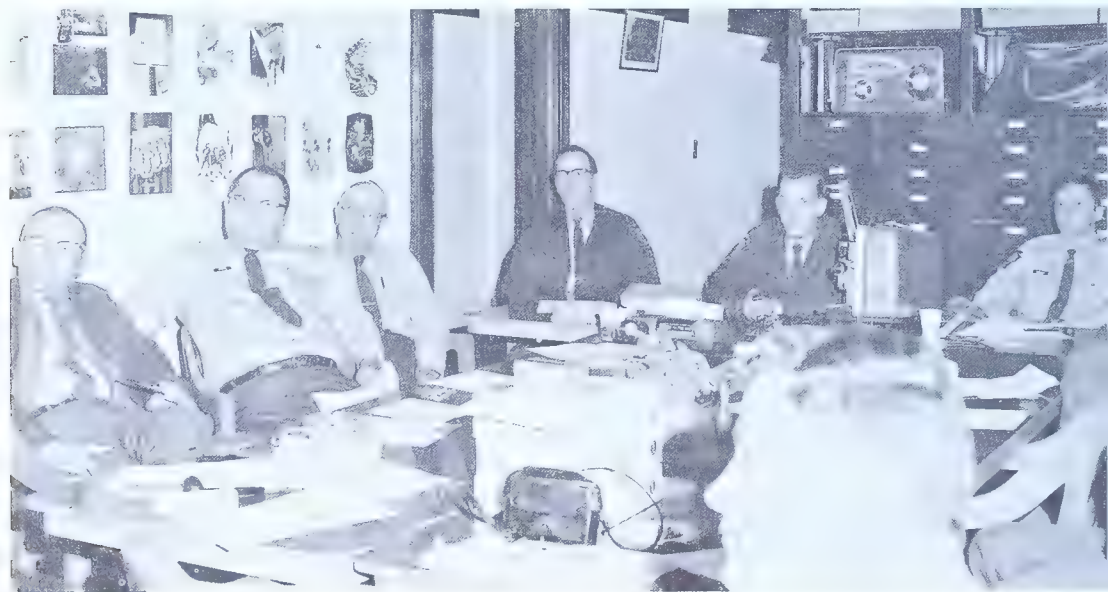
More wildlife habitat—an estimated 1.5 million acres—is lost each year to highways, airports, housing and industry than is saved by various conservation agencies, according to the National Wildlife Federation.

Lost Rifle

While hunting in the Fallbrook area of Tioga County on December 2, 1970, Lester Stull, Hereford, Pa., 18056, lost his scope-sighted 35 Remington rifle. If it was found by anyone reading this, its return would be greatly appreciated.

AS PART OF THE PGC'S IN-SERVICE training program, sectional meetings are held at division offices, with all personnel from these areas attending. Here, at Ligonier, DGP Jim Burns gives a slide presentation to explain a program he's carrying out in Somerset County.

PGC Photo by Fred Servey



A Chance to Choose

By Keith C. Schuyler

Photos From the Author

"I WAS WISHING I had my bow!" How often have you heard a gunner-archer make this remark after a successful trip with the gun? He was referring, of course, to some situation in which he would have had an excellent chance to collect with the bow if he had one handy. Such expressions are generally reserved for the special situation wherein some game animal performs contrary to its usual pattern. Instead of scooting away as usual to provide a challenging shot, even with a gun, it throws away the rule book.

These situations occur from time to time with any hunter. Most will hurry the rabbit, pheasant or squirrel on its way to present the kind of challenge that makes any kind of hunting so worthwhile. Those who blast a sitting target at close range are more interested in eating than in sport.

Gustatory Pleasures

This is not to discount the gustatory pleasures that follow a successful hunt. In fact, last season our dinner table was conspicuously void of much small game, since most of my hunting was with the bow. With only two days of the extended season remaining, I broke down and took out the gun to get some rabbits, since they are my favorite on the wild game menu. Seven cottontails went into the game bag on these two days, with no more than an hour spent at the pleasant chore on each occasion.

Even so, on a couple of those rabbits, I was wishing I had my bow. Our menu would probably have suffered, but I'd have had several long interesting shots at rabbits hopping slowly among the weeds on a hard crust of snow that covered the ground



THE NOVEMBER HUNTER can choose the bow, but he may have second thoughts in the small game season when he sees easy "gun shots" escaping. Still, he should stick with his first choice, Schuyler feels. In the long run, he'll get the most satisfaction from it.



UNLIKE GUNNERS, bowmen can shoot at unprotected targets of opportunity without scaring their game. But some, such as this chipmunk, don't offer much to hit with an arrow.

during the last few days of the special season.

There is only one way in which a bow hunter can be prepared for those easy shots that occasionally present themselves, and that is to go hunting with the bow. Although any small game species requires maximum skill for the average shot, probably the toughest part of taking upland game is simply taking the time to do so.

The end result quite often can be the reverse of this article's statement. The bow hunter is more apt to come out with something like, "If only I had my gun!" For there are days when game simply refuses to sit tight enough for good bow hunting. It can be pretty frustrating watching all those game dinners disappear over the horizon—dinners that a gun most probably would have collected.

There will be nothing here to discourage anyone from hunting with the gun in the small game season. Most of us archery types alternate at one time or another.

Certainly it would be too dangerous to attempt using the bow for ring-necked pheasants on those first two important days when shooting is best. But good rabbit hunting can come at

any time during the season, squirrels are available during the last half of the deer season, and the unlikely chance of a grouse comes at the same time. All are available in November.

The important thing is that we can have a chance to choose whichever way we want to go hunting. The vast majority of hunters is more interested in the type of shooting that presents itself than in the score, but it is important that we do score occasionally since any game would lose its thrill and incentive if there were not the occasional satisfaction in making a shot which proves our skill.

However, with rare exception, the general attitude of hunters I have known refutes the positive opinion of Roger Caras in his book, *Death as a Way of Life*—that we are born killers and continue to live as killers and that man actually *loves* to kill. As so often happens with critics, he takes statements out of context from the writings of the late Robert Ruark which are self-deprecatory, as evidenced from the title from which it was taken, *Use Enough Gun*. Ruark was illustrating the bad effects of using too small a cartridge. His vivid description makes it appear that he is somehow enjoying the unfortunate results of poor personal judgment, although he is actually warning others against making the same mistake.

Increasing Hunters

It has become evident in recent years that increasing numbers of Pennsylvania hunters are sharing the sport of bow hunting and gun hunting. This is substantiated by the fact that the number of bow hunters far outnumber those who enjoy archery strictly as a target sport. The extra opportunities provided by special archery seasons have attracted those who formerly hunted with the gun for the obvious reason that they simply enjoy hunting. And, no one who has ever hunted with the bow could accept Caras's reasoning as an excuse to do

so. Killing with an arrow is an accomplishment that occurs so seldom there is little argument as to where the thrills lie.

However, we have been considering loosely the special times provided for the bow and the gun as separate hunting arms. November is the season usually thought of primarily, if not solely, for gun hunting. But, since approximately 15 percent of licensed hunters in Pennsylvania will also purchase an archery tag, there is the chance to choose.

To avoid those situations which recall the desire to have had a bow handy, there is only one answer. Take advantage of time to hunt with bow during the small game seasons.

Rabbits will undoubtedly continue to be the favorite target of small game bow hunters. They are the most available, the easiest to find, and are more likely to present a shot that will encourage even the average archer to keep trying. Possibly the biggest challenge in rabbit hunting for the bowman is in simply finding them. Particularly in the early part of the seasons, rabbits will sit tight in surroundings which so closely hide or camouflage them that they are most difficult to find. The experienced hunter soon learns that the rabbit's eye is most likely to give away its location. However, even this is little help unless the hunter knows the most likely spots to find a cottontail hunkered down for the day. As always, experience is the answer.

When such a rabbit is found, the tendency is to stop and survey the situation. This is also the point at which the shot should be taken. For, once the hunter stops, his next move

is very apt to send his quarry on its way.

Few running rabbits are killed with the bow and arrow. This will discourage many hunters from even trying when such an opportunity presents itself. But even a stationary rabbit is a challenging target. The smart bow hunter will get in plenty of practice at close shooting before he takes to the field, if he wants to avoid embarrassing misses.

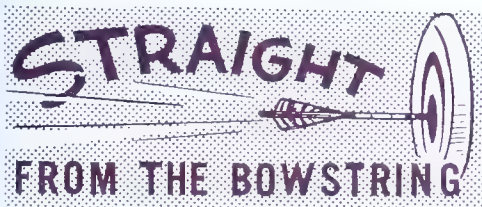
Popping Out of Grass

It is not unusual to have rabbits go popping out of grass which a later investigation shows holds no nest, the familiar shallow dishes of dirt created by the rabbit to lower his outline. These are rabbits on the move which simply flatten themselves out at the hunter's approach in the hope they will be undetected. They are much more nervous under such conditions, and any move in their direction is likely to send them scooting.

There are two other ways to improve one's chances for a rabbit. One is to employ the services of a slow beagle or similar size dog. Rabbits will be more apt to take their time in front of such an animal and present better shooting than with a dog that drives them faster. The other method is simply to get a few friends to cooperate where heavy thickets permit "driving" of a sort. Where the brush is thick, cottontails are less apt to hit their burrows upon being kicked loose, and they may hop cautiously through the undergrowth to make more practical targets for the bowman.

There are few special recommendations for tackle when rabbit hunting. Any bow which the hunter can handle well is fine. My personal choice of arrowheads for cottontails is the regular field point, as it shoots well and will do an efficient job. Broadheads are more expensive and have an annoying habit of skipping away even after they have made a good hit.

Since the vast majority of bow



hunters are such because they want to hunt white-tailed deer in Pennsylvania, they have had plenty of opportunities to line up squirrel shooting during October. Deer and gray squirrels inhabit much the same areas because they share some of the food supplies. The deer hunter has an excellent chance to mark good squirrel hunting spots for later on. Unfortunately for the archer, most good squirrel hunting spots are known to gunners too, and he may have competition. It is well to have a number of places in mind when starting out to avoid disappointment.

On the Ground

Although the traditional picture of a gray squirrel shows him sitting in the crotch of a tree or cavorting through the branches, most of the good shooting is on the ground. Squirrels are busy throughout the fall rummaging through the leaves to find nuts which have fallen or to feed upon seeds on the forest floor. For such shooting the field arrow is best. My choice of heads here is the regular steel blunt. This will do a proper job on squirrels. It has the initial advantage of being able to absorb the punishment of hits into roots and trunks of trees—not uncommon in pursuit of squirrels with the bow and arrow. However, shots with such arrows should be restricted to the ground or at a level no higher than the archer can be certain is clear of other hunters.

For the aerial shots, high in the branches or in the crotch of limbs, the heavily-fletched flu-flu is the only practical arrow to use. However, these are less accurate and considerable practice is necessary if any consistency can be expected. Again, the choice here is steel blunts. Enough arrows can be lost simply because the heavy fletching catches in the leaves or branches without the additional hazard of having sharp points stick into limbs far beyond reach.

In Pennsylvania, there are few places where aerial shots at ringnecked pheasants can be considered safe. During the first few days when the birds are relatively abundant there is plenty of hunter competition and an arrow can become a real hazard. Later in the season, the chance of even getting an aerial shot with the bow is greatly reduced. Consequently any hunting at ringnecks must of necessity be confined almost wholly to ground shots. This would not seem to be much encouragement, and shots at ringnecks would appear to be more by happenstance than by planning.

However, those who also hunt with the gun can use their knowledge of the old ringrooster to good advantage when seeking him with the bow and arrow. It is common knowledge that these birds will frequently run to the end of a field before taking off. Possibly less known is the fact that many such birds never fly and are not even seen by a hunter. They simply run off somewhere where they feel secure. Whether their canniness or their preference to run is the motivating reason, the fact that they do so makes them somewhat vulnerable to bow hunters who use careful planning.

Obviously, the best way is to take turns driving ringnecks much as deer are driven. There will be plenty of frustrations when the birds fly up in easy gun range. But their tendency to



run increases the probability of shooting sufficiently to make the method worth a try. Here again my choice is field points, although I must confess to limited personal experience.

Archers are apt to get shooting at unprotected species to liven up their days afield for small game. The necessity for pussyfooting around often brings shooting that is not usually available to gun hunters. As a case in point, one of our bow hunting group had a shot at a goose last year when the big bird landed in a pasture. Extra-hungry woodchucks adding desert to their long spring and summer feed, red squirrels, chipmunks, porcupines, raccoons and opossums are less disturbed by the cautious bow hunter. Further, the cost of an arrow released is only divided into the potentially hundreds of times that shaft might be shot before it breaks or goes into hiding under the leaves or grass. There are always the unfortunate exceptions when a brand-new arrow takes its leave on the very first shot, but this is not likely to deter its owner from releasing it at a target of opportunity.

And, if things get really dull, a bit of stump shooting can make the day interesting while improving the ability of the would-be hunter. This is another point in favor of the blunt head. Either a commercial head or one made of a fired .38-caliber pistol cartridge case will prolong the life of even cheap wooden shafts.

No Limit on Fun

Most importantly, there is no limitation on the fun that a day afield with the bow can provide. Opportunities at birds or animals are only frosting on the cake. It is not necessary to measure success by the weight of the game pocket even though *hunting* is still the name of the game.

Of course, there are grouse. But, in Pennsylvania, any shots at grouse are going to be primarily by chance when one comes clucking along in season while you are hunting other game.

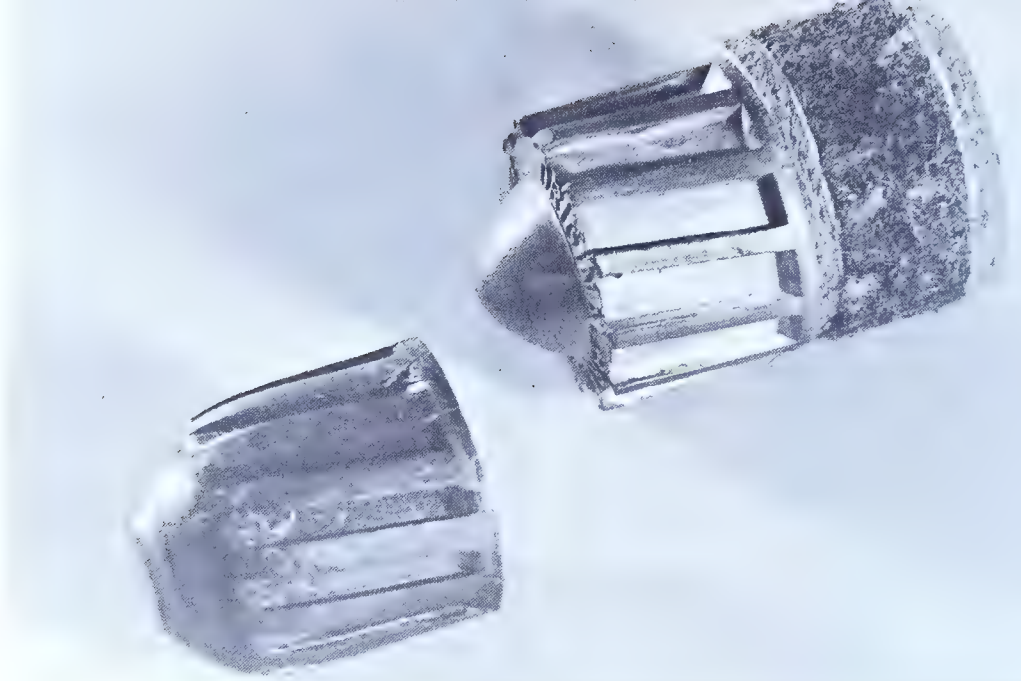


IF SHOTS ARE TAKEN at squirrels in trees, flu-flu arrows should be used. In general, Schuyler recommends shooting at squirrels on ground.

Although some of the greatest hunting I've had with the bow and arrow has been for grouse in areas where they are relatively tame, the thunderbirds of the Keystone State will seldom sit still for this kind of shenanigan. Turkeys, with the bow, are in a hunting class by themselves.

Nevertheless, among the other three more common species of upland game, there are plenty of opportunities to at least make a good try. Most certainly there can be no challenge from anyone as to the motives of the bow hunter who goes after small game the hard way. He is going to see plenty of targets within easy gun range that are, for all practical purposes, impossible with the bow. This places him somewhat in the position of an angler who returns a fish to the water. He has had a thrill without a kill. But, for the many that he must "throw back," the bow hunter will have occasional big moments when his perseverance and skill pay off.

The archer who can come up with only one each of the big three in upland game—a rabbit, a squirrel and a ring-necked pheasant—has a special satisfaction that comes from having played the small-game game for all it's worth.



16-GAUGE AMERICAN RIFLED SLUG, left, and 12-gauge Brenneke slug, such as handloaded by Lewis for test shooting. Both types gave excellent accuracy at woods ranges, have plenty of power for deer.

The Case for . . .

THE SHOTGUN SLUG

By Don Lewis

Photos by Helen Lewis

THE YOUNG HUNTER pushed tighter against the large tree in a futile attempt to keep the biting wind from penetrating his clothing. His feet and hands were nearly frozen, but he was determined to stay on watch. Occasionally, he shuffled his feet and flexed his grip on the single-shot 25-20, but the severity of the cold was just too much for his homemade hunting outfit; he began to realize that if a buck didn't appear soon, he would be forced to move just to keep warm.

Miserable as he was, the young fellow wanted to stick it out, as this was the last day of the 1934 buck season, and he knew that the river hill adjoining the Sanders flat area he was in would have two or three major deer drives during the afternoon. Deer would be moving, and knowing every

inch of the land, he rested all his hopes on the fact that a buck could break up from the river and head for the small patches of woods that dotted the flat.

He had chosen a stand that overlooked a deep ravine filled with scattered saplings. It would be easy for a buck to sneak through the watchers and come up the ravine. The young hunter had trapped on the flat for several years and had learned that numerous deer traveled through this ravine to get to the farmland and apple orchards on top.

Trying to fight off the cold and the persisting desire to move, he was somewhat chagrined when another hunter appeared on the opposite hillside and dug in behind a massive white oak. The only satisfaction the

young hunter could muster out of having another hunter watching the same trail was that the intruder was too high on the hillside. If a deer ran the trail the young hunter was watching, the man on the opposite side would have more than 150 yards to shoot. In 1934, scopes were more of a novelty than now, and shots beyond 100 yards represented an unbelievable distance. This knowledge convinced the youngster he would have little competition from the other hunter.

Distant Shots

Distant shots broke the silence, and the young hunter's blood began to move more quickly through his body. Sporadic shooting continued, and when three shots cracked loud and clear, it was apparent a deer was coming up the ravine.

Ten minutes passed without another sound and no deer came into view. The boy propped his rifle against the tree and once more began to fight the cold. A ringing shot from the opposite hill made him grab for his rifle, and just for an instant, he saw a monstrous deer coming up the ravine. The deer was more than 250 yards away, but its massive rack was clearly visible. The hunter across the ravine fired twice but the big buck kept coming.

The shooting had turned the deer, and the best the boy could hope for was a running shot at 100 yards as the buck passed to his right. He didn't have long to think. The deer bounded out of the ravine bottom and headed directly up the hill. The youngster stepped to the side of the tree and raised his battered rifle; he found the deer in his sights just as a single shot cracked and the deer collapsed. For

several seconds, the boy stood staring. He even checked his rifle to see if he had fired, but his rifle had a live round in it. All he could come up with was that another hunter was close by. He was satisfied with his theory until he saw the man on the opposite hill hurrying toward the bottom of the ravine.

The young hunter reached the fallen buck shortly after the other hunter arrived, and it was then that he learned the truth. What seemed incredible to the boy was that the hunter was using a pump shotgun and just a 20-gauge



TEST GUNS—Ithaca M900 autoloader, left, Ithaca M37 Deerslayer, Mossberg M500 Slugster, and Remington 870R Brushmaster with Weaver 2-7X scope.

at that. To add to his disillusionment, the man told him he had scored with the last shell he had with him. This really made little difference to a teen-aged boy who had had a 13-point buck in his sights just long enough to see it dropped by a shotgun slug.

The many years since this incident took place have dimmed memories and perhaps added yardage to the shot. I do know that it had to be a very long shot. I've hunted and





DON LEWIS FIRES offhand with the Remington Brushmaster. Gun is more accurate than most hunters from this position. All guns tested would be fine for deer at woods ranges.

trapped in this same area and have been shown where it happened. From my own conclusions, I feel the slug had to travel over 175 yards. That's an awfully long distance for a slug.

I haven't recalled this bit of nostalgia from my past to prove that the shotgun slug is superior to the rifle bullet or that it can be used effectively at long distances. On the contrary, a shot such as this should not have even been fired. What seems to be a moment of triumph and incredible shooting really was nothing more than just a freak piece of luck. The real truth is that the deer was never within the effective range of the shotgun slug. The hunter simply did not know or did not care; he emptied the shotgun and the last slug hit the deer in the head. An incident such as this is a far cry from good hunting or good shooting, and it does not make the shotgun slug a long-range projectile. Most hunters know about shotgun slugs, but few have ever fired one or have any

real idea just what can be expected from the slug.

The shotgun slug can be fired successfully from any shotgun, regardless of choke, without damaging the choke or the gun. It's been a common belief for years that shotgun slugs will shoot the choke out of a shotgun. This is not true. Choke sizes are taken into account when slugs are manufactured. I do feel from my own tests and experiences that the shotguns designed especially for slugs will give better results than conventional shotguns.

The outfits I tested were all cylinder bores but I did find some variation in muzzle dimensions. The factor usually refers to these shotguns as "slug" guns and does not give information pertaining to choke sizes. Other than having a barrel designed for the slug, the regular slug guns have barrels only 20-24 inches long, which makes them compact and easy to handle in brush. The short barrel does not make the gun look out of proportion. I found each of the four outfits I used well balanced and quick to swing. In dense brush, this factor alone could be a prime consideration.

Shotguns Used

The four shotguns I used were the Ithaca Model 37 Deerslayer, the Ithaca Model 900 Deluxe Semi-Automatic 20 gauge, the Mossberg Model 500 A with the "Slugster" 24-inch barrel, and the Remington Model 870R Brushmaster deer gun. All were 12-gauges except the Ithaca 900. An autoloader it would not be legal with slugs in Pennsylvania, but GAME NEWS goes to states where the semi-automatic is legal for big game, so I mention it here.

Shotgun slugs of today are far superior to the "punkin balls" or even the shotgun slugs of 30 years ago. For these tests I used the Brenneke slug, exclusively in handloads and Remington and Western factory loads. The Brenneke slug has received considerable recognition down through the

years. I was well satisfied with the results of both it and the American rifled slugs.

The American 12-gauge slug weighs roughly one ounce and has a hollow base. The Brenneke slug is solid and has a felt base attached to it. According to my calculations, the U.S. slug weighs approximately 436 grains, while the Brenneke, complete with base and attaching screw, goes slightly over one ounce—about 470 grains. The U.S. slug is $\frac{3}{4}$ -inch in length and the Brenneke slug and felt measures $1\frac{1}{4}$ inches with a diameter of 0.719 inches.

The U.S. slugs have “vanes” on their perimeter. The Brenneke has a point to enhance accuracy, along with vanes. The vanes on all slugs run at an angle, apparently to make them rotate for better stability; however, some experimenters claim they have no effect in this regard.

The Brenneke slug was sold for years in factory loaded ammunition, and today, with sophisticated hand-loading equipment available, the slugs can be purchased separately. I must warn that loading slugs, especially the Brenneke, is a slow and demanding procedure. Fortunately, a complete set of instructions comes with each box of slugs, and the handloader is strongly advised to follow the methods outlined and not vary or change components. I've loaded ammunition for many years, but I stuck exactly with

the given loads suggested by the manufacturer.

I used once-fired plastic cases, Winchester 209 primers, and two types of powder for the 12-gauge. Most loads were put together with Herco powder, but I fired a few with Dupont PB in the 12-gauge. For the 20-gauge, I used the Remington 57 primers and Herco powder. Powder charges were taken from a loading manual.

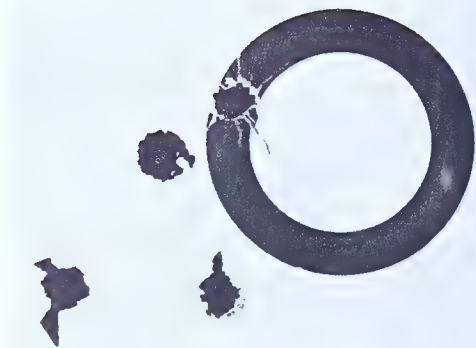
Any reliable loading press can be used. I used the Ponsness-Warren Du-O-Matic 375. The 375 can be considered a progressive loader, but I found that speed has no part in slug loading. With the Du-O-Matic, the case stays in a full length sizing die during the entire operation. Instead of moving from station to station as is the normal shotshell loading method, I sized, decapped, and installed the primer and then dropped the die and case out of the press. The 375 has a built-in powder charger, but I made a separate operation out of this and weighed each powder charge carefully.

After installing the powder, I started the slug with my fingers. Immediately, I ran into problems with the old crimp. I plugged in my Forster Appelt case former, set it for medium temperature, and my problems were over. This little device ironed out enough of the old crimp to make slug insertion an easy operation.

The Brenneke slug needs no other

Big Game Cards Needed

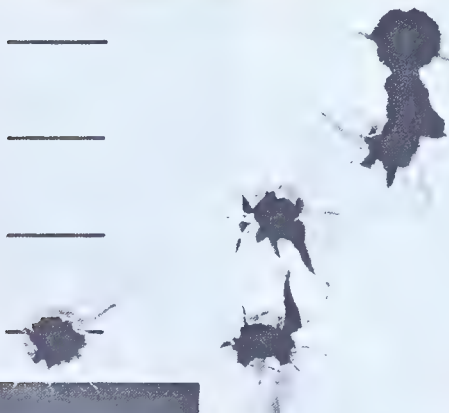
Each successful deer hunter in Pennsylvania is reminded that he must file a report with the Game Commission. Hunters who take deer and fail to file reports are subject to penalties under provisions of the Game Law. The information is of extreme importance in managing the state's deer herd. Withholding of the cards provides a false picture of the herd, and errors in the management program which occur as a result of information withheld can only mean less sport for Pennsylvania hunters. It only takes a minute to fill out the report card, which is a part of the hunting license. Postage is paid by the Game Commission. Past Game Commission studies have shown that only some 70 to 80 percent of the successful deer hunters file the required reports. This means thousands of hunters neglect or reject their opportunity to help in the state's deer management program.



4-SHOT GROUP from Ithaca 20-gauge autoloader, above, measured 3 inches, same size as 5-shot group, above right, from M37 Ithaca 12-gauge. Shot from bench at 50 yards.



REMINGTON M870 GAVE SMALLEST group of tests, a 2-inch for 5 shots, above left, with Remington Express loads. With Brenneke handloads, it gave 4 shots in 2½ inches, right. Below left, 4½-inch group shot with Mossberg and Super-X slugs; right, 4½-inch group from Ithaca M37.



wads. The slug is seated against the powder charge with 100 pounds of wad pressure. Two half retainer plastic rings are installed on top of the slug and the star crimp is used. Crimping is one of the delicate operations. Instead of seating the crimp deep in the case, I made a nice fold over the slug, since I didn't want to add to the wad pressure. It took a few minutes to get the knack of it, but I had a system going before I loaded the first dozen.

The entire time I was handling this rather large hunk of lead, I kept wondering just how fast it would come out of the muzzle. As soon as I had fired a few and got the bugs ironed out of my loading procedures, I loaded five and fired them through the Avtron K233 chronograph screens. I was in for a surprise. Here are the readings shot by shot: 1434, 1393, 1449, 1418, and 1430 giving an average instrumental velocity at 15 feet of 1425 feet per second. This is very consistent. Notice there is only a 57-fps spread from the lowest reading to the highest.

Muzzle energy is around 2000 foot pounds, and as near as I could determine, 50-yard velocity would be over 1000 fps with some 1200 foot pounds of energy. At 100 yards, velocity would be in the 800 to 900 fps category with energy also dropping to less than 1000 foot pounds. This is plenty of punch to take the average big game animal in Pennsylvania even at 100 yards. I feel, however, that slugs should be used primarily in the 60-yard range, and from the testing I did, I became convinced the hunter can rely on the accuracy and power of the shotgun slug up to this distance. That's a pretty fair shot in heavy timber.

The accuracy of shotgun slugs has improved during the last few years, but I was still skeptical when I sat at the bench ready to begin firing. I chose the Ithaca 37 Deerslayer first. It comes equipped with open, adjustable sights. I shot several rounds to get the feel of the trigger and made a slight sight adjustment. My first string cut a 6-inch group at 50 yards. I did slightly better with the second try,

Shotgun Rifled Slug Test

Range—50 Yards. Benchrest		Chronograph—Avtron K233		
Shotgun	Shell	Velocity	Group 1	Group 2
Ithaca Model 37 Deerslayer	Brenneke handload	1425	4½" (4 shots)	4¼"
	Remington Express	1452	3"	4½"
	Western Super X	1418	4¼"	5"
Ithaca Model 900 Semi-Automatic 20-gauge	Remington Express	1373	5"	4"
	Western Super X	1335	4¾"	3" (4 shots)
Mossberg AS 500 Slugster barrel	Brenneke handload	1415	5"	4¾"
	Remington Express	1458	4¼"	5½"
	Western Super X	1440	4½"	4¾"
Mossberg ARK 26" barrel with C-Lect Choke and regular shotgun sights	Brenneke handload	1415	6½"	5¾"
	Remington Express	1458	5¾"	6"
	Western Super X	1440	5¾"	6¼"
Remington 870R Brushmaster Weaver 700 Classic 2½-7X	Brenneke handload	1435	2½"	4½"
	Remington Express	1447	4"	2"
	Western Super X	1441	3¼"	3¾"

NOTES: Firing was done during the August 23-September 11 period. Velocities are given in feet per second and were taken at 15 feet; they are averages of five shots in the handloads, three shots in factory loads. Unless otherwise noted, groups are of five shots.

with a 5-inch group. This impressed me as being consistent, and I began to generate a little more respect for the shotgun slug.

Being a scope advocate, I drilled and tapped the new Model 870 Remington test shotgun and mounted the beautiful Weaver 700 Classic 2½-7X scope. It blended perfectly with the 870, and the more I shot the combination, the more convinced I became that the hunter using a low-powered scope on the shotgun would have a definite advantage. I installed this variable model to test different powers, but I feel a low-powered scope would be the most practical.

I'll have to admit that with all the advantages in vision the scope offered, I fired the open sight shotguns with a real degree of precision. During the tests, I fired a number of groups that measured below 5 inches with the open sights. With the scoped Remington, I often had two or three shots nearly touching. I believe that with some other powders and loads suggested by the manufacturer, plus more practice loading, the groups could be dropped in size some.

I made a few penetration tests and found that the Brenneke was capable of going through three inches of dried oak at 40 yards. I see no reason to

doubt the slug's ability to give good penetration on big game at reasonable ranges.

After finishing with the Brenneke handloads, I began testing with the Remington Express and Western Super-X factory loads. I was amazed at how well they shot. I suppose as a confirmed handloader I had expected my Brenneke loads to surpass the factory offerings, but this was not the case. Individual groups varied slightly of course, but overall results were so close that no significant difference could be noted between them. Before I was done, I had shot up almost 200 rounds of slug ammo and I can emphasize that within a range of 60 yards or so, in such guns as I used, they certainly will do all that's required for accuracy — and killing power, obviously. For more detailed information see the accompanying table.

There is one factor that I must bring up, and that is recoil. The slug shooting shotgun packs a powerful backward punch. If you doubt me, ask my wife, Helen. I'm not trying to throw fear into any shooter. The slug shotgun has recoil but is not in the same class in this regard as the 378 Weatherby Magnum rifle, say. Just remember, it's quite a bit heavier than the regular 12-gauge hunting load.

Looking Backward . . .

"Prices agreed upon.—For a merchantable beaver, two fathoms of seawan.

"For a good bear's hide, to the value of a beaver, two fathoms.

"For an elant's (moose) hide, to value of a beaver, two fathoms seawan, and so in proportion.

"For a deer-skin, 120 seawan.

"Those of foxes, ratclapan, hispan, and others, in proportion. Done in a general meeting in Fort Casimir, January 10, 1657. . . ."

Samuel Hazard, "Annals of Pennsylvania," pp. 228-229, Phila., 1850.

*From "Albany Records," I, 458. The Indian trade had been made less profitable through some persons having raised the price paid on deer skins. Violations of the agreement made here meant forfeiture for one year of the right to trade and, at the worst, expulsion from the river.

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS Executive Director

ROBERT S. LICHTENBERGER Deputy Executive Director

EDWARD T. DURKIN Comptroller

DANIEL H. FACKLER Division of Administration Chief

DALE E. SHEFFER Division of Research Chief

HARVEY A. ROBERTS Division of Land Management Chief

JAMES A. BROWN Division of Law Enforcement Chief

JOHN B. SEDAM Division of Minerals Chief

RALPH E. BRITT Division of Propagation Chief

ROY W. TREXLER Division of Information and Education Chief

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188

Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.

SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.

Phone: A.C. 412 238-9523 or 238-9524

Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.

NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641

Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.

SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.

Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.

NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.

Phone: A.C. 717 675-1143 or 675-1144

Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.

SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.

Phone: A.C. 215 926-6071

Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473. Phone: A.C. 215 287-8151

WESTERN GAME FARM—G. Russell Enlow, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212

LOYALSOCK GAME FARM—Jack N. Anderson, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500

STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252

SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223. Phone: A.C. 814 275-2515

STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

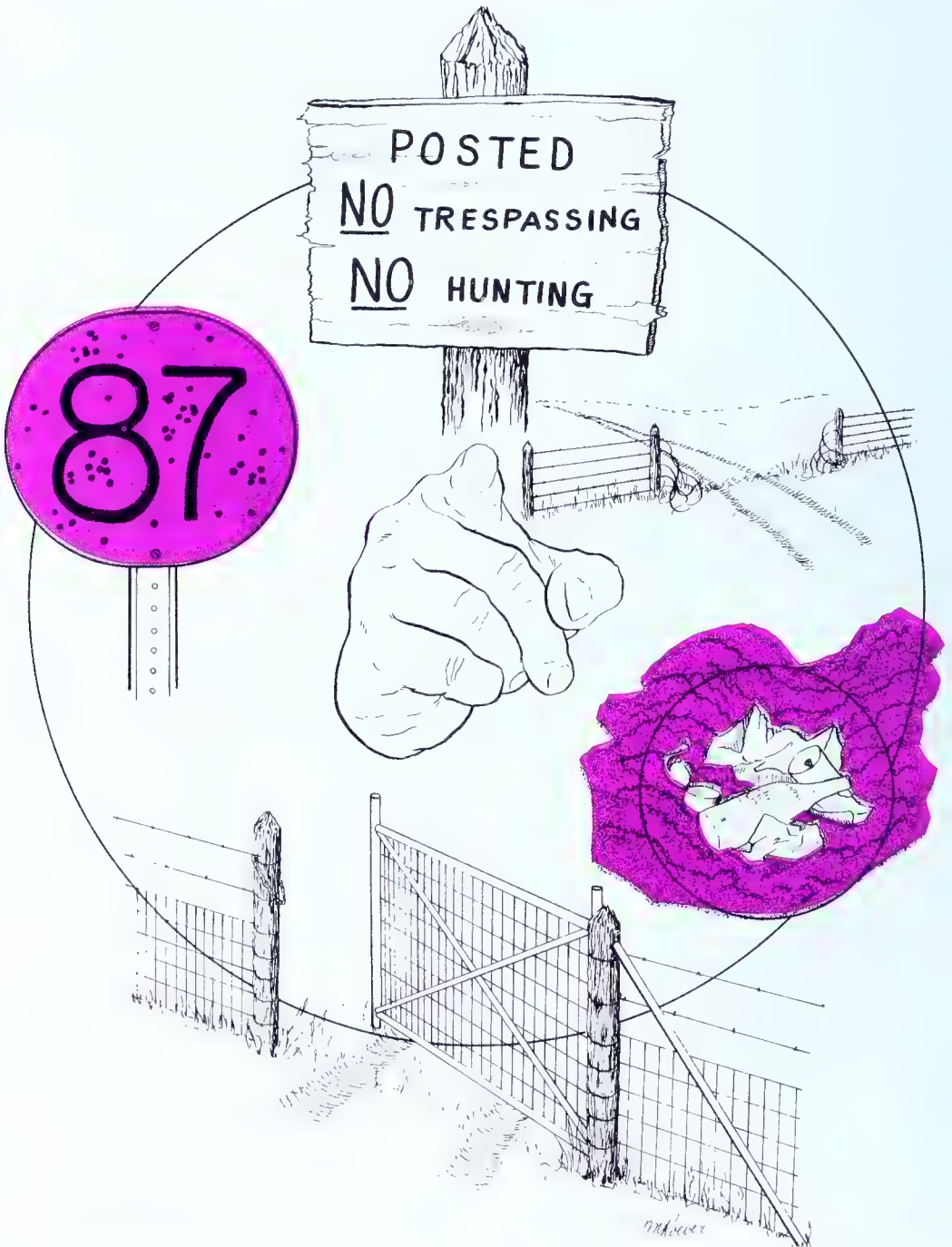
HOWARD NURSERY

SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brockway 15824. Phone: A.C. 814 265-0456

YOU CAN KEEP LAND UNPOSTED!



Respect fences, gates, signs, litter laws...

P38.34

1.6

1971

Dec.

PENNSYLVANIA GAME NEWS

DECEMBER, 1971

25 CENTS



LIBRARY
DOCUMENTS SECTION

NOV 2 1971

*400
S111M*

Published Monthly by the
**PENNSYLVANIA GAME
COMMISSION**

**COMMONWEALTH OF
PENNSYLVANIA**

Milton J. Shapp
Governor



COMMISSION MEMBERS

Edwin J. Brooks, President
Lansdale

Andrew C. Long, Vice-President
Shamokin

H. L. Buchanan, Secretary
Franklin

James A. Thompson
Pittsburgh

Loring H. Cramer
East Stroudsburg

Frederick M. Simpson
Huntingdon

Robert E. Fasnacht
Ephrata

Marshall E. Jetty
Brockway



Glenn L. Bowers
Executive Director



**PENNSYLVANIA
GAME NEWS**

Robert S. Bell
Editor

R. Theodore Godshall
Associate Editor

John Eckhart
Circulation

IN THIS ISSUE

FEATURES

	Page
We Holler Loud!	2
By Mike Ferchaw	
12-Point Buck With a Bow	8
By Robert Kirschner	
I'll Long Remember	11
By R. Parish	
Persistence Pays	14
By Ritchie Moorhead	
A Mended Memory	21
By F. E. Mazur	
Last Man Gets the Buck	24
By David S. Bair	
Game Commissioner Heads Trapshooters ..	29

NEWS

Field Notes	36
Conservation News	
Can Deer and Motorists Coexist?	40
By H. B. Graves and E. D. Bellis	
GAME NEWS Index for 1971	63

COLUMNS

Mark the Catalogs! (Camping)	45
By Les Rountree	
Hunting Contests (Archery)	50
By Keith C. Schuyler	
Don't Undersell Today's Rifles (Guns)	56
By Don Lewis	

COVER PAINTING BY NED SMITH

Many deer hunters spend eleven and a half months out of the year thinking about and planning for Pennsylvania's deer season—a normal enough state of mind for men of all ages who grew up believing that the whitetail is the world's greatest game animal—and the other two weeks actually hunting them. Of course, hunting deer and finding them are not necessarily the same thing. Quite often, despite the best efforts of our sportsman, he's just in the wrong place at a given time—quite possibly because of the sharp ears and keen nose of his quarry. And that's as it should be. It's the hunt that keeps us going, not the shooting. . . .

Published **MONTHLY** by the Pennsylvania Game Commission, South Office Building, Capitol, P. O. Box 1567, Harrisburg, Pennsylvania 17120. **SUBSCRIPTION RATES:** \$2.00 per year; \$5 for three years. **TO SUBSCRIBE:** Send check or money order payable to "Pennsylvania Game Commission." Do not send stamps; cash forwarded is done so at sender's risk. **CHANGE OF ADDRESS:** Send both new and old addresses; allow six weeks for processing. Material accepted is subject to our requirements for editing and revising. Author payment covers all rights and title to accepted material, including manuscripts, photographs, drawings and illustrations. No information contained in the magazine may be used for advertising or commercial purposes. Copyright © 1971 by the Pennsylvania Game Commission. All rights reserved.
NOTICE: Subscriptions received and processed by the last day of each month will begin with the second month following.

Printed by Times and News Publishing Co., Gettysburg, Pa.
Second Class Postage Paid at Harrisburg, Pa. 17120, with additional entry at Gettysburg, Pa.

More on a Big Problem

OUR OCTOBER EDITORIAL dealt with hunter-landowner relationships, and it brought in a surprising amount of mail—all from landowners. Some took the time to detail the problems they've encountered with thoughtless hunters, and it struck me that all of us should be made aware of what goes on at times. Therefore, we are printing below a letter received from a woman in northwestern Pennsylvania. I believe it will shock most of you. I hope so, for that might be the first step toward getting the law-abiding hunter to make every effort to convert the few thoughtless ones, or to report them to the proper law authorities. We know these "violators" make up only a tiny percentage of our hunters, but their actions reinforce the TV-fostered image of the hunter as a slob, they are illegal in the first place, and what they do affects you because they can close untold thousands of acres to public hunting. Read this lady's letter—every word is true—and think about it seriously. I feel it's time we all wised up.—Bob Bell

September 23, 1971

Dear Sir,

As my husband and I are both landowners, sportsmen, and lovers of nature, may I say a few words to all the "sportsmen" who will soon be in the woods hunting their favorite game?

To all "Gentlemen Sportsmen" who read Penna. GAME NEWS—if you know a friend who doesn't receive GAME NEWS, would you please lend him your copy? The viewpoints expressed in this letter apply to all sportsmen, as expressed by myself and many other landowners.

In the November, 1970, issue and again in the October, 1971, issue of GAME NEWS, on the *first page* (did you miss that part?) there's a very good article titled "Get To Know Landowners." If you haven't read it, please do. If you did read it, please read it again. My letter refers to this article and now I have a few things to say to the hunters (sportsmen is a dead word) out there.

First of all, I'm a female (makes you suspicious right there, huh?). Okay. My husband and I bought this farm five years ago and I'd like to tell you of the incidents which have kept us busy since then.

The first day of deer hunting season, my husband packed his gear and headed for his spot in our woods. (I headed back to bed.) Around 8:30 a.m. I was aroused by a noise and as I turned in bed, there stood four men in our hallway, watching me. Guess we scared each other because they ran out the door, jumped in their cars and left. Wonder what they were hunting? Needless to say, we got a better lock on the door! Would you call this trespassing? Next, the same day, my husband got a shot at a beautiful 11-point buck, but didn't kill him instantly. He started tracking the blood trail and as he approached our cornfield, heard another shot. "Well, I guess someone else got him," he thought. He went to the spot where the deer lay and the "sportsmen" were hurriedly dressing it. "Did that deer have another hole in him?" my husband asked. "No," was the quick reply. The men quickly loaded the deer in our driveway—but, as they had to turn it, the other hole where my husband had hit it was exposed. The "sportsman" then said, "Yeah, there was another hole in it." Well, as it turned out, this "sportsman" was sitting in a bar bragging about this beautiful 11-point he shot and was going to have the head mounted. Just so happens, he was bragging to the wrong person, and we found out the true story. My husband had shot the deer through the lungs, it ran, then died in our cornfield. This "sportsman" saw the deer, shot it in the back (very difficult to shoot a dead deer, eh?) because he wanted the head. Anyway, "Mr. Sportsman" we know who you are and where you live. Do you have that head hanging low enough? From what we hear from others, shooting dead deer is your game. Please stay off our property this season.

I have four horses and I don't dare let them run in the pasture during hunting season. The summer season is bad enough! There have been three times when we were in the

(Continued on Page 43)



We Holler Loud!

By Mike Ferchaw

THE STEEP hillside dropped abruptly from the road 300 feet above, and I had all I could do to keep my footing along its side. As I clutched at a small sapling for balance, I could hear Wayne's voice far below. It came from the river's edge directly in line with me saying, "Yo, buck . . . yo, buck." Then came Phil's hoarse shout, "Get up. . . . Hey, get up." He was a little closer in the thick entanglement of the river bottom. I could see Harky's red hat bobbing along at the base of the hill below me. He passed the call along with a loud bellow, "Hey, buck . . . hey, get along."

"It's like making a cattle drive," I

muttered. Then I added my own shout to the already ringing forest.

This was a completely new way of hunting for me. I was used to hunting deer by either stalking or sitting on a stand. Oh, I had made "drives" before; but they were always silent, with the hunters moving quietly through the woods toward the men waiting on "stand." I had to admit this new method kept us lined up better but I reserved judgment until I saw the results.

The hill seemed to be getting steeper and I angled down it a little ways, searching for a better route. Again the cries came drifting up to me, and again I answered, "Ho,



I TRUDGED UP THE slope 300 yards and sat down in the middle of the open field. I'd been shooting groundhogs all summer with my 30-06, at ranges up to 400 yards, so I figured I could hit a deer at 300.

buck." I chuckled. "We act as though all the deer in the woods are bucks."

Just then, as if to dispute this theory, two does came crashing up the hill toward me. Their plunging hooves dug deeply into the soft earth, throwing leaves and black dirt over the clean blanket of snow. I couldn't help but marvel at the ease with which these graceful animals climbed the ridge. As their tails cleared the top, I shouted with more enthusiasm than ever.

Suddenly, a single shot thundered out of the thick trees ahead of me. According to plan, I stopped and waited, in case the buck doubled back through the drive. The rest of the

pushers were silent also. After about two minutes, Wayne took up the shout again. This is the exciting time, as you near the end of the drive and you know somebody is getting action through your efforts. I was as pleased as if I had done the shooting.

The sheer face of the hillside drove me down to its base and I soon encountered the up and down knolls of an old strip mine. Puffing, I climbed the knob of the "leventy-second" knoll and there lay a plump 4-point buck. Taken by surprise, I quickly looked around to see who had shot it.

A shout came from above. The sharp sides of the cliff made me lean over almost backwards to see, and as I held my hat on my head, there stood Tex looking down from far above. I was flabbergasted at the shot he had made. From where I stood, he looked a half-inch tall and I doubt if I'd have seen him had it not been

for his bright orange vest. It was an incredible shot.

I waved to him and continued on with the drive. It was over about three minutes later and we all gathered in a large clearing at the end of the woods. Joe, Sam and Ludwick came down off their stands to help drag out Tex's deer. They told us four more had come through the clearing but they were all does.

We unloaded our guns, piled into two pickup trucks, Tex's deer in back, and headed for the next "push." This time Wayne, Harky, Phil and I would be on stand while the others did the pushing.

The two trucks split up at a cross-roads, with the drivers going around

one side of a woods and the posters going around to the other. We always use two trucks so that we don't have to walk back at the end of a drive. One of the trucks can always go back and get the others. It saves a lot of time.

We took up our positions in a thick area about a quarter of a mile wide and a half mile deep. It was filled with small, second-growth oak trees that we call red-brush. The drivers seldom see each other and they must rely on voice signals to keep in alignment.

There were deer trails in abundance and I sat down alongside a well used one. The woods seemed peaceful and quiet after all the noise I'd heard on the last drive. It stayed this way for 20 minutes, then I heard faint shouts in the distance.

Tough Going

I became more alert. The going must have been tough, because it was some time before the yelling grew clear. I wondered how far ahead of the drivers the deer would be, if they came at all. As the tension mounted, I came to realize just how much suspense there is to this type of a hunt.

Then the suspense was over. Deer burst through the brush all around! The first four I saw were does, but I only got a glimpse at three others that ran around on the opposite side. I didn't see horns, so I wasn't sure if a buck was with them or not. One last doe ran up the deer trail straight at me and stopped dead. She stared and, after a moment's indecision, spun around and headed back the way she had come.

It was all over in seconds and I was left there shaking in my boots. The torn up snow gave positive evidence, but I still found it hard to believe that it actually happened, it was over so fast.

Two shots suddenly rang out from Wayne's position and I hoped he had better luck than I did. As my gaze



EVERYONE REALLY appreciates it when one of the gang gets a deer, maybe because they know their driving efforts were important to the success.

tore the brush apart trying to see better, more shots rang out farther down the line. I hoped it was Phil, since this was his first deer hunt. He is 51 years old and has finally decided to see what deer hunting is all about.

I was sure somebody had a deer down, as these shots were slow and evenly spaced. Nobody could have gotten that many shots off at a running deer in this brush.

Branches cracked in front of me and Ludwick broke through the thicket. His jacket was open and despite the sweat running off his flushed face, he broke into a smile from ear to ear.

"What's up?" he asked.

"I don't know."

"Who's doing all the shooting?"

"It must be Phil, Wayne or Harky. I know it isn't me."

"Come on, let's go see."

As we made our way through the red-brush, I realized what the guys must have gone through on this push. We were almost on top of the others before we saw them. Wayne and Phil each had a buck! Wayne's was a 6-point, while Phil's was a heavy 5-point. Everyone was laughing as Phil told his story.

"You should have been there," he said. "I hit him in the chest and he fell down. Then he got up! I shot again and he fell down. Then he got up again! I had to shoot four times and every time I shot, he fell down."

Joe was studying the deer. "How many times did you say you hit him?"

"Four."

"How come there's only one hole?"

Phil looked in amazement. Then, he turned to us and with a satisfied shrug said, "I must have shot him four times in the same hole."

That was too much. We actually sat down in the snow and laughed until we cried. It was the highlight of the day. He's never going to live that down.

We were having a splendid day. And although we didn't get any more

shooting in the next three drives, we moved a lot of deer. When it was my turn on watch again, I found myself trying to select a good place to cover the corner of a woods. I was standing in a wide field which bordered two sides of the wooded area. Wayne told me to be sure to pick a spot where I could see around both sides of the corner, so I selected a lone tree that stood about 20 yards into the field from my post. It was ideal, but that was just the trouble—it was going to be too easy. The more I looked back at my trail in the snow, the more convinced I became that I didn't want to do it this way.

Up the Slope

Finally, with my mind made up, I trudged back up the slope to the top. When I stopped, I had counted 300 paces. I sat down in the middle of that open field.

My rifle is a Remington 30-06 and



MY DEER WAS a big 8-point. The 130-gr. bullet from my 30-06 had entered right where I'd aimed, for our fourth buck of the day . . . and we weren't done yet!

I'd been shooting groundhogs with it all summer at ranges up to 400 yards, so I felt I could hit a deer at 300.

I emptied the rifle of its 180-gr. loads and loaded up again with Hornady 130-gr. handloads. These are very accurate in my rifle and I knew a well-placed shot would have a devastating effect.

As I settled down to wait, I began to have my doubts. I wondered if I could see horns at this distance with a 4X scope.

Again and again, I tested the scope on objects in the woods below. What I was really worried about was, what if the deer didn't come all the way out into the field? What then? Would I be able to see them if they just skirted the edge?

I didn't have long to wait. Long before I heard the drivers, three deer came running through my neck of the woods. I saw them easily with the naked eye before they hit the field, and when they ran into the open, I had them in the scope.

They were the most bald-headed deer I'd ever seen. No amount of wishful thinking could put horns on their heads. However, they did restore my confidence. I could easily see they were does through my scope, so I knew I could tell a buck if one came along.

Eventually, the drive came close enough so that I could hear the men hollering. Then I caught a glimpse of a deer in the woods. The rifle flew to my shoulder, and at once I found the deer in the scope. Even before it hit the edge of the woods I knew it was a buck. The scope clearly showed the white rack on its head.

At first, I thought I was going to have a running shot, but as soon as the deer hit the field, it stopped to look back. I had already figured the distance out in advance and I decided I could hold dead-on. My rifle was sighted to hit a couple of inches low at 300 yards, but I figured the downhill angle would compensate

for this. With deliberate aim from a sitting position, I put the crosshairs on the deer's shoulder, as it stood facing me.

The shot jarred the scope off target for a moment. When it came back on the deer, I saw that it was on the ground with all four feet in the air. The legs settled slowly down and the deer didn't move.

Raced Down the Hill

I jumped up and raced down the hill. About the time I reached my buck, Tex entered the field above me. I knew just how he must have felt as he jogged toward me, since I was there when he shot his.

After the customary back-slapping and hand-shaking, Tex helped me with the field-dressing.

It was a big 8-point. The 130-gr. bullet had entered the chest cavity right where I'd aimed. There was no exit hole, so all of its energy was absorbed by the deer. No wonder it hit the ground as if it was pole-axed.

We soon had it on the pickup and back to camp, where we hung it up along with the other three we had shot earlier. As I gazed up at the meat-pole, I figured here was proof positive that this loud driving method worked. These guys knew what they were doing.

I guess if you had to name one single reason for our success, it would have to be Wayne and Tex's knowledge of this area. You see, we were hunting the farm country around Brookville, in Jefferson County, and Wayne and Tex were born here. The rest of us are city boys from New Castle and Youngstown, Ohio.

These woods are the rugged pieces of land that can't be farmed, and the deer are big and fat, due to the fields of corn, wheat, and oats that break up the landscape into a patch-quilt design. It is these strips of woods between fields that we hunt, and that is where knowledge of the deer's habits pays off.

To make a successful drive, you must know exactly where the deer will go when spooked and place the hunters accordingly.

We decided to make one more drive before calling it a day. It turned out to be a good decision, because just after we got out of the pickups we saw a big buck racing across an open field. It went out of sight as Harky ran for the top of a hill to the side of us, digging shells out of his pocket as he went. I saw him flop down on his belly, poking shells into the magazine and working the bolt. The deer was hidden from our sight now and all of us were watching Harky.

He seemed to be taking an awfully long time to shoot, but in reality it was only a few seconds. Then the rifle spoke! Calmly ejecting the spent cartridge, he took aim again. I thought he had missed and was going to shoot again, but this was not the case. After several seconds of looking through the scope, Harky rose to his knees and waved to us.

I think all of us were holding our breath, because cheers arose from everyone and we all headed for the hilltop.

The deer lay in the field several hundred yards out, but now it was only a brown spot against the snow. Harky had made an amazing shot. He took the running buck right through the neck at better than 200 yards.

We found the deer nose-down in the snow at the end of a long furrow where it had plowed to a sliding stop.

Harky was one proud fellow as we dragged his 6-point back to the trucks.

This last episode had taken only a few minutes of our time so we continued on to make the last drive of the day.

The climax came an hour later, when Ludwick dropped a spike buck as it tried to cross a powerline at the end of the push. This deer ran a short way and ended up dead about four feet from one of the trucks. Phil got a good laugh out of this.

"We've shot a lot of bucks," he said, "but this is the first one we had to drag away from the truck to clean it."

Ludwick's deer was a big one but it had only one antler about eight inches long. The other side must have been broken off at an early stage of development, since all that remained was a short rounded-off stub.

First a One-Point . . .

It was Ludwick's first buck and I couldn't resist kidding him a little. "That's the way it goes, first you get a one-point, then you get a 2-point, then you get a 3-point. . . ."

That's as far as I got before the snowball came whizzing past my head.

It was a happy gang that gathered around the meat-pole that evening. I couldn't get over our success—six bucks in one day! This is exceptional luck even in the best deer country.

As we sat around discussing it later that evening, Phil summed it up best. "You know," he said, "that Tex is a terrific hunter. He hollers loud!"

And to See What's Going On

Although the chipmunk spends most of the winter underground, it does not enter true hibernation, awakening periodically to partake of its stored inventory of seeds and nuts.



BOB KIRSCHNER proudly exhibits his big trophy. The Westmoreland County buck weighed 215 lbs. field-dressed, is probably the largest buck ever taken with a bow in Pennsylvania.

On My Twenty-Fourth Day of Hunting I Got a . . .

12-Point Buck With a Bow

By Robert Kirschner

IT WAS October 26 and, after today, only four days would be left in the early portion of the 1970 archery season for deer. That might seem like a lot, but I wasn't too hopeful. The season had opened on September 26—26 hunting days ago—and I had hunted on 24 of those days. Without luck. Or at least without any good luck. So I guess you'll understand why I felt that time was running out and my hopes of getting a trophy with the bow were growing slim. But in spite of my doubt, the vision of a prize buck kept me hunting.

It was getting dark much earlier than it had at the beginning of the

season, so I didn't have much time after leaving work that Monday. The weather was perfect—cloudy with a cool north wind. It had rained for the past three days but now the breeze was drying the newly fallen leaves. This made them crisp and I could hear a darting chipmunk at 50 yards—a good condition when I intended to remain on my favorite stand, an apple tree, and let my quarry come to me. I was hunting near Murrys ville in Westmoreland County.

I approached the tree cautiously, but not cautiously enough, for I saw two white tails waving good-bye as I neared it. Deer have senses that are

hard to beat. I had spent so much time in this tree that climbing it was down to a routine. I soon was comfortable and took up my motionless wait once again. I noticed that the frost, wind and rain had caused nearly all the foliage in the area to drop except on the apple trees. These were still dark green. The wind was whispering in my face, carrying my scent above the valley to the next ridge. I knew there would be no danger of deer in the valley scenting me, and I expected the cool temperatures would keep the deer moving and feeding. Suddenly I felt excited at my prospects, despite the three fruitless weeks I'd already experienced.

Waiting patiently, I was making mental notes of openings which would give clear shots when I heard a shuffle in the leaves. The noise came from about 75 yards away. It sounded like a deer taking a few steps at a time, then stopping to watch.

Suddenly a buck emerged from the woods. My hand clamped down on my bow and I could feel the surge in my blood pressure. The buck started toward me, slowly coming closer and closer. He was a beautiful animal, his 6-point rack gleaming against the dusky background. He stopped just out of shooting range, as if to search for intruders in his domain. Long moments passed and his head moved slowly from side to side, looking for any strange movement. I knew his fantastic nose could scent a man at a great distance if the wind were right, and those sensitive ears could hear a twig snap at a hundred yards. I didn't dare move, though part of me ached to send an arrow at him. Now the buck stood perfectly still, looking in my direction. Fear that he had spotted me and would disappear ran through me. My heart beat faster and faster. I felt like a loaded time bomb. Desperate for a shot, I had to force my arms to remain motionless, to keep from raising the bow.

Then I heard another noise directly behind me. The crackling leaves got louder and louder. Now, even my fingertips were thumping from the pounding of my heart. The clatter sounded as if an animal were right beneath me. When I looked out of the corner of my eye, I almost passed out. A giant buck! My sight became hazed, my stomach quivered from shock. To my surprise, the smaller 6-point charged as if to challenge the bigger animal.

Once-in-a-Lifetime Experience

I glanced at a leaf on the tree where I was sitting. My violent vibrations had the whole tree shaking. It must be a fight for the deer herd, I thought. It was the rutting season; I was going to witness a once-in-a-lifetime experience. In the confusion of preparing for battle, neither of the bucks noticed me sitting above them.

Then the giant buck stepped out in a perfect location for a chest shot. I knew I would have but one shot at him and now was the time to make my move. Cautiously, praying I wouldn't be noticed, I pulled back my bow, took careful aim, and the cedar arrow was on its way. It sped to the mark, a direct hit in the chest area.

The startled 6-point fled while the huge buck made a few long leaps, stopped, and looked back. Unable to get a clear second shot, I watched as the huge animal walked very slowly over a rise in the terrain. Questions chased themselves through my mind. Had I really hit him solidly? Would he go far? Would I be able to find him, or would he escape to die uselessly or be found by another hunter?

I was no longer able to see the buck. I was shaking so badly, it seemed nearly impossible to leave my stand. My eyes were watery, my tongue felt dry and thick. I had buck fever, that much I knew.

When I settled down a little, I knew I had to track down the wounded buck. I slipped out of the

tree and fell to the ground. My knees buckled, but I got up and pushed on after my trophy.

Staggering to the area where I last saw the buck, I started the search. I kneeled, then went to my hands and knees, but couldn't find a single drop of blood. Doubts of ever finding him darkened my mind. I trailed by his tracks alone for a hundred yards, then found a few drops of foamy blood. Still on my hands and knees, I trailed on. Feeling guilty for wounding such a fine animal, I was determined to find him. I was convinced the deer was bleeding internally. I refused to let him be wasted.

Difficult to Distinguish

Some distance on, I found the remains of my arrow. It was only 20 inches of shaft. The fallen maple and oak leaves camouflaged the trail and made it extremely difficult to distinguish. Darkness was setting in, soon it would be impossible to see. My hands and knees were steaming from the cold, wet ground and I felt chilled, but I continued on and soon found a spot where the deer had stumbled. Rocks were turned and a small log had been rolled into a new position.

The blood trail became heavier. Encouraged, I followed over a rise in the terrain. The foliage was extremely thick; goldenrod and ragweed rose two and three feet tall. Then I saw something to my right about 80 yards away.

It had to be the buck. But it was motionless. Proceeding very cautiously, I began to see it in greater detail. It was the buck—I could see his white stomach and large antlers! Now, 40 yards from the trophy, I feared chasing him off. Sneaking on, ready

to release an arrow, I noticed he was motionless. It wasn't necessary to shoot. I had my trophy before me.

When I had calmed down enough to examine the large antlers and huge size of the buck, I knew I had a real trophy, a better one than anyone could really expect to get. The rack had 12 large points. I felt like the luckiest guy alive.

After field-dressing and tagging my trophy, I began to drag him back to my car. Then I really realized how big he was! I could move him no more than a few feet at a time, even downhill. I pulled until I was exhausted, until my eyes glazed with effort and my breath came in desperate gasps. I don't really know how I got him to the road and into the car.

Later that evening, I took my buck to a cold storage house, the Castle Provision Company in Darragh. The attendant was amazed at the size of the animal. When we put the deer on the scale, it weighed 215 pounds. I have the weight slip, which was witnessed by several persons. They estimated the live weight of the buck at 255 pounds. I believe this is the largest buck ever taken with a bow in Pennsylvania, as the largest previously reported one that I have heard about weighed 204½ pounds.

And not only the buck's weight was impressive. His rack also was. As mentioned, he had 12 big points, and when I had it measured during the Game Commission's scoring program in May, it totaled 131 6/8, to make it the fourth best typical rack measured during the 1971 program. You can believe me when I say I feel this is the prize buck of a lifetime. It is more than worth all those days I hunted.

Lots to Learn

Cougar kittens spend approximately two years with their mothers learning the skills of stalking prey.



I'll Long Remember

By R. Parish

THE YEAR 1946 was a great one for me for a number of reasons. For one, I was on Pennsylvania turf once more and once again I was hunting the noblest of trophies, Pennsylvania's white-tailed deer.

The first day of the season is etched in my memory like an engraving. The weather was ideal. The night before opening day it had snowed. What else could fill a deer hunter's heart with such delight? During the early morning hours, the mercury had plunged. I wasn't overjoyed at this, as the snow had crusted in the below zero weather and noisy traveling was now in the offing. Dawn was still perhaps an hour away as Dad and I parked by the open field skirting the darkened woods, getting reacquainted and swapping hunting stories.

We sat in the car and watched the sky lighten. Shooting hour was only minutes away as we eased out of the car and carefully pressed the doors shut.

I was elated as I scanned the new snow. It was crisscrossed with deer trails, most of them heading downhill into the valley where the trout stream chuckled under its cover of ice.

As this was my first trip to Jefferson County, I quickly took my landmarks, noted the direction of the dirt road and of course positioned the sun, which was just beginning to flush the sky in the east. Then I loaded my 35 Remington pump. This little beauty was also a stranger to me on loan from Dad, a pleasure to carry after three years of packing the heavy M1



THE WOODS CAME alive with deer. Down the trail they came, Indian file, and I saw they would pass within a few feet of me if they kept on course.

in the South Pacific during WW II.

Dad had disappeared into the evergreens to the north as I reached the hardwood forest to the east. Not a sound disturbed the quiet of the woods and my excitement mounted as I followed the deep trail into the forest.

Crusted With Frost

In about fifteen minutes I reached the creek. I scanned the country briefly, noting the heavy stand of pines upstream, and decided I would stand with my back against an old charred stump amid briars, boulders and second growth. I cleared the leaves and debris away so I could have maximum movement with minimum noise and settled down to wait. The woods were crusted with frost crystals from the below zero temperature. Each breath wafted a cloud of vapor skyward and I saw that no

wind was blowing. An ideal day except for the extreme cold which was already beginning to gnaw at my Woolrich clothing. Suddenly the silence was broken by the crunching of snow. Slowly I eased my rifle to a ready position, my head turning very slowly. I peeked around the stump and caught my breath. The cold was forgotten as the woods came alive with deer. Down the trail they came, Indian file, and I saw they would pass within a few feet of me if they kept on course.

Brown and White Ghosts

Soon they were abreast of me and I remained tensed and statue-like as they filed past like so many brown and white ghosts. Five, ten, I counted, all does. Then two, three more came down the hillside. These too were does. Far from being disappointed, I felt warm with the satisfaction of observing so many deer at close range undetected. Suddenly the doe with the two yearling fawns stopped dead. Her ears went up and her neck stretched out until she faced me eye to eye. Still I remained motionless. Her fawns butted each other playfully and licked snow from the log I had my boots propped against. She looked so comical that I said "Baa!" With a bleat of alarm she leaped straight into the air, landing almost in her tracks, and once again began to sniff and stretch and eye this strange stump that made noises. Finally I made a sweep with my hand and set her trotting off, white flag flashing and her babies bounding behind her.

My pulse returned to normal and once more I blended into the charred snag, silent and searching. I sent my gaze on a yard-by-yard sweep every few minutes. To the right, front, left and rear. By now the rattle of gunfire could be heard from different directions. I could picture the scenes in my mind's eye. The volleys doubtless were at running deer and I could

visualize the whitetail as he raced through the laurel, hemlock and brush, having all the advantage as he fled into his familiar wooded retreat. A single hollow "ka-pow" usually meant some patient stander had scored on a walking or standing target, I believed. With such exhilarating scenes in mind, I continued my solitary vigil.

Now, distant drives were underway. I could hear whistles, dog howls and "haloos" echoing in the hills. The sun burst out in its full glory, bathing the snowy evergreens in golden light. Suddenly, I saw a deer. It leaped from the pines, whirled and just as suddenly disappeared in the heavy cover. I eased erect, my Gamemaster at the ready. Almost immediately a deer appeared, a brown shadow against the greenery. He paused, peered over his shoulder and began to move toward me.

The Safety Off

Only my pounding heart could be heard, and that only by me. He was a good 100 yards off when I pushed the safety off. Here I learned an object lesson about a deer's hearing ability. At this tiny sound he stopped dead in his tracks, ears erect, and nervously peered in all directions before resuming his pace. As his ears went up the sun glistened on antlers and I spotted the forked horns against the sky. A legal buck. A few yards closer—then he veered broadside.

Carefully, I laid the gold bead front sight low on his shoulder and squeezed the trigger. I couldn't see how I missed, but the buck gave a tremendous leap, crashed through the brush almost on top of me and started

up the hill, zigzagging through the rocks strewn along the trail. I began to shoot as fast as I could aim, fire and eject.

Suddenly the 35 was empty and I had an empty feeling also. Here I'd had a fine whitetail dead to rights and I'd blown it. Well, I'd been told about buck fever, but all cases I'd heard of had either failed to shoot, dry fired, or emptied their guns without shooting a round. At least I hadn't done any of these.

A Deer Down

Disgusted at my poor shooting, I walked down to the creek to see if there was any sign of a hit. There was! So much that I knew the odds were good that I had a deer down not far away. I followed the trail quickly and as I topped the rise I saw the buck lying in a depression in the snow.

I spent a few minutes admiring the animal before field-dressing and tagging it. It was a sleek handsome buck, with a nice size rack.

The haul back to the car was easy on the glazed snow. Dad was there, warming up, and he hurried to help me when he saw me leaving the woods. He was more excited at my success than I was.

While we had a cup of coffee in the heated car, we exchanged observations on our morning's experiences. As I gazed out at my prize lying nearby, then across the snow-sheathed Pennsylvania hills, the steamy jungles receded even further into the past and a feeling of genuine contentment surged through me. Not only a feeling of achievement at having taken a wild creature, but a pleasurable feeling based on seeing that large herd of deer so closely, the beauty of the dawn, the first light followed by first shots across the hills, the excitement of seeing the approaching buck. Above all, the freedom to roam the hills of home. I'll long remember Jefferson County, deer season, 1946.

Give

GAME NEWS

To a Friend . . .



Ruane Manning

*Sometimes, Getting a Pennsylvania Whitetail Is Easy,
Sometimes It Isn't. Here Is One Hunter Who Learned—Through
Experience—That if You Really Want a Deer . . .*

Persistence Pays

By Ritchie Moorhead

ON THE FIRST day of the 1957 big game season I set out for the top of Stonecrusher Hill between Wapwallopen and Mocanaqua in Luzerne County. I was keeping company with my only firearm, a Kessler bolt action 16-gauge shotgun which was my constant companion from the time my father presented it to me until it broke one of its unobtainable springs and was traded for something newer. Having graduated from Nescopeck High School that June I had not yet become the proud owner of a deer rifle. I reasoned that if I could kill rabbits and grouse with this gun I certainly could kill a deer with it because deer are bigger.

After the usual sweaty hike in the dark I found a good spot to stand and finish my chosen task. I loaded Old Faithful and began my watch. After several cold hours I was not sure that any deer was going to be worth the effort spent. Suddenly a buck appeared just a few short yards away. He was a great 10-pointer in no obvious hurry to be anywhere else in particular. With a great deal of difficulty I got the shotgun to hold still — or so I thought.

At the shot the deer disappeared and I was sure that he had just gone to heaven and I would find the carcass lying on the forest floor. As I approached I found nothing but a small pine tree with a rifled slug buried dead center in it. The buck had indeed disappeared; definitely not to heaven, but rather to the next county. With a much deflated ego I took my injured pride home for dinner. The rest of that season found me seeing nothing in the woods but visions of

that huge rack running and hiding behind pine trees.

The long and oft-times jinxed tale of my first triumph over the outdoor coatrack called the white-tailed deer thus began in 1957 and covered many miles and counties of Pennsylvania before it was finished 12 years later.

The year 1958 found me attending Millersville State College and returning home for deer season with my determination on a high level. A borrowed 6.5mm Arisaka rifle gave me the advantage I felt I needed and I headed for Nescopeck Mountain and familiar ground. I parked near the television tower and headed north to avoid the gang that stayed close to the road. After two or three miles I settled down under a pine tree, too big to see a deer behind, and waited. About 8:30 a.m. a 4-point came into view and I fired at 75 yards. A miss—and the bolt jammed as I tried for the next shot. I promptly went home and caught up on the sleep I had lost in anticipation of opening hour. That season finished with no further sightings of the elusive hard-hatted creatures, although I hunted each Saturday.

Along Wapwallopen Creek

The following year found me in the woods of Luzerne and Columbia Counties with an 8mm Mauser that my brother Curt and I had stocked that year. It shot very well and I worked hard all season to find a buck. On the last Saturday I found one in a valley along big Wapwallopen Creek. At the crack of the rifle he ran toward my hunting partner and he put him down for keeps with a neck shot. As

we examined his deer we found a bullet hole just above the spine. I had forgotten about the high Monte Carlo stock and did not aim fine enough with the iron-sighted rifle. I was now three years without a buck.

During 1960 I was hunting with a surplus British 303 SMLE which my brother saw fit to lend me for my assault on the deer population. With little opportunity to get out that year, my only chance was a college rod and gun club trip to Pine Grove in Schuylkill County. We stayed in an old log cabin and the night was so cold that eggs, peaches, bread and hamburg froze three feet from the fireplace. We arose early to keep from freezing to death and preparations were made for the hunt. I was to stand first and drive in the afternoon. The drives produced no horns but I did see a spike buck as I returned to the camp. As I squeezed the trigger I was sure that my goal was now complete. *Click.* The 303 had never been stripped and degreased, which caused the firing pin to slide slowly through the muck. No buck this year either.

With a full conviction that borrowed rifles were partly at fault for my misfortune, I saved and obtained a Model 94 Winchester 30-30 which was degreased and sighted in long before the great hour in 1961.

Skiping Classes

Opening day found me skipping college classes and standing on Nescopeck Mountain. But it was not my day. I hunted hard and almost froze my feet, but no buck appeared. The following weekend was spent deep in the hills of Sullivan County near Jamison City, which has been good deer country for many years. My little-luck was still working. No deer of any size or shape appeared. I didn't feel too bad, however, as I saw a bear cub at about 50 feet. These moments are worth the time spent, as the rascal did not know I was there till Mom came back and took him away. Junior could not understand the whole rush and his antics

were most enjoyable. At times like this a giant buck with magnificent horns is no match for the trophy of enjoying wildlife in its unhurried natural state. My only wish was for my camera. It was back in the car.

The remaining weekends were spent in the same area, as I had seen some nice deer that my friends had taken there, but I could not find a horn. Five years without a deer can make a guy feel a bit low at times.

Weekend Hunting

The next year, 1962, found me graduating from college and teaching industrial arts at Eastern High School. My hunting still was limited mainly to weekends only, but I did manage a few evenings in the river hills of York County. Plenty of does were seen. I spent my weekends on Nescopeck Mountain, as I felt most secure in my knowledge of this country. I hoped that my hiking and hunting for small game over this mountain would pay off with a buck. I helped several hunters drag out their kills but I could not get one for my own. I never had a chance to fire my rifle that year.

Prior to the 1963 season I obtained a Remington Model 700 in 243 caliber. I put a 3-9x Redfield scope on it and spent many hours at the York Rifleman range getting familiar with this accurate combination. I soon found that reloading was an interesting hobby and helped reduce the cost of practice and off-season woodchuck hunting. By the time deer season rolled around I was ready with a rifle which shot minute-of-angle groups with my favorite handload. Surely now I would see a nice buck and it would be a simple job to transform him into a venison steak dinner. I was more confident than ever. I spent many evenings in the York County hills that season but there were only bald-headed deer to greet me. My weekends were spent either on Nescopeck Mountain or in my favorite spot near Jamison City. It would be an outright lie to make up any ad-



AS I APPROACHED the car, I spotted four deer in an oak thicket on the far side of the road. My binoculars revealed horns on one!

ventures as this season was the worst to date. Nothing happened at all. How could one guy have so much luck—all of it bad?

I began to examine my approach to deer hunting in hopes of seeing what I was doing wrong. As I always hunted alone due to my job I felt that not being with a gang or camp was cutting down on my success. My desire to join a camp and become part of its activity and fellowship has always been thwarted by my occupation. School teaching has a poor vacation plan for the hunter. I also found that I was doing too much walking and only seeing the north side of south-bound deer. They do not grow horns on that end so I might have spooked lots of bucks and never known it. Next year I would spend more time in one spot.

The first Saturday of 1964 found me on top of Red Rock Mountain, deep

in the State Game Land east of the radar base. For years I had seen deer along this area as my father and I would travel to Saxs Pond at Dushore for our many fishing sessions. I had explored the area a bit and finally found a good trail to watch. As I entered the woods before the magic hour, I was surprised at the number of hunters within 200 yards of the road. I moved deeper into the woods and found my spot. There was plenty of shooting around me but no legal buck came near my stand. I saw two short spike bucks but I could not get my horn-stretcher to work. No action today. The following week found me back in the same general area but on another stand. It was a beautiful day and I felt sure I would make it today. Along about 3 p.m. several deer were coming up my trail. I put my glasses on them and watched: bald, bald, bald, buttons — **HORNS!** I counted

2-4-6 and all of a sudden I had it—buck fever, that is. I could not get the safety off. Suddenly the deer were moving away and there I stood. In my excitement I had tried to move the safety the wrong way.

The rest of the day was spent practicing not getting buck fever. I aimed at imaginary deer and the safety worked quite well. That was my only exposure to a buck that year.

Having had some success in seeing deer on Red Rock Mountain, I spent 1965 hoping to return to my new favorite spot. But a sinus infection kept me out of school and out of the woods for the first two weeks of the season. You cannot imagine the torture of having time off during the deer season and being too sick to use it. I managed to get out for the last Saturday but saw only a few does.

For the first time in four years I was able to have the first day of deer season off due to a change of school districts. I had visions of success, and had I elected to follow a course other than the one I chose success would have been almost instant. My brother Curt, Dan Nevius from Mifflinville,

and I headed for Red Rock and my now-old stand. I was carrying only my Colt Python 357 Magnum revolver while Dan and Curt were carrying rifles. I elected to hunt in the heavier woods on the left of the road, while they hunted in the more open woods on the right side. We departed and about 10 minutes after the opening whistle blew I heard a shot in their area. Hearing no more I assumed either a miss or a clean kill. Five minutes more produced another single shot. I continued to hunt till mid-morning, when I headed for the car and a sandwich.

Two Nice Bucks

To my surprise both of them were back and they had two nice bucks in the trunk. They had connected on the two shots I had heard earlier and had been waiting for me. On the way out of the woods they had a 10-point buck watch them drag their deer to the car. They reported seeing four or five legal bucks that morning. If I had gone with them I might have connected early. As this was the day of the big rain I stuck it out until soaked to the skin. I returned home a mighty dampened hunter, both in body and spirit. The rest of the season was a freezing deerless endurance test for me, as usual.

In the time between the '66 and '67 seasons I became interested in bow hunting through my archery club at Red Lion High School. My luck with a bow was much better so far as seeing bucks was concerned, but I missed three on opening day of bow season. I was glad that I missed cleanly, as I hate to see a cripple, whether shooting with a rifle or a bow. I now was beginning to view rifle season as a time of potluck, with the deer doing little which was natural for them. I had seen many deer at close range in archery season but rifle season showed few deer in the same area. My appreciation for nature was being increased with each interesting bow hunting trip.



THE LITTLE RASCAL didn't know I was there until Mom came back and took him away. Seeing the bears more than made up for not seeing a buck.

I did not connect with the bow so I headed north to Sullivan County and my old haunts again. My luck, or lack of it, was holding, with no decorated heads to be found all season. I returned at Christmas vacation and all that I missed was a nice raccoon high in an oak tree. Taking part in both bow and rifle seasons gave me my most pleasant year, with many hours spent in the woods. I was now seeing that exposure to the outdoors was the only way to see deer. I was finally learning.

The next year was a repeat of 1967, with no misses or opportunities for a buck in bow season. During the rifle season I hunted in Sullivan, Lycoming, Luzerne and York Counties with no horns in sight. Christmas vacation sent John Beckley and me to Cascade and two days of hunting in bitter cold. We saw a few deer but none within bow range. With the temperature dropping below zero we got out less than we wanted to and returned home empty-handed. The year ended with an empty freezer. I was now ready to give it up. I was sure that I had been hexed while I was in Lancaster County attending college. I almost sought out some counter hex to break my streak of luck. The mental effect of 11 years with no buck was staggering.

New Country to Learn

During 1969, I moved to Athens in Bradford County to be near better hunting territory. I now had some new country to learn and new spots to scout. Archery season found me combining Saturday bow hunts with camping trips and rifle matches on Sundays at the Original Pennsylvania 1000-Yard Benchrest Club, Inc. During the archery season I missed three bucks, one a real beauty, and six does, all at close range. I was still convinced that a jinx existed as I missed 10- and 15-yard shots regularly with a bow I could make shoot into an 8-inch circle at 20 yards. I reasoned that it was just me and my hangup about killing a deer.



I FOUND ANOTHER hunter filling out his tag. We looked the deer over. It had two holes in it, one from his 30-06, one from my 243.

Archery season closed and rabbit hunting was excellent and I planned for the big day. In September I had applied for an antlerless deer permit as Sayre High School closes for both the first day of the season and the first day of antlerless season. Its arrival gave me still another chance at a deer this year. Surely the increased amount of time I was going to spend in the woods would help. I also had plans to spend Christmas vacation hunting with the bow if necessary.

As the big day approached I laid my plans for a trip to Barclay Mountain, which is south of Route 414 in Bradford County. I had spent some time in the area during the small game season so I knew there were deer in the vicinity. I arrived a bit past opening hour due to snow which required that I put on tire chains to get up the mountain. I hurried to my spot and began to wait.

It was a perfect day with a light snow falling, and I drank some tea to chase the chill and looked at my watch. It was 8:25. I heard shots to my right and instantly became alert to movement. It was a nice spike buck with about 6-inch horns. I lifted my Sako heavy-barrel 243 and put the

crosswires on him. Off came the safety. I was rock steady. I figured the range to be 75 yards and I held on the front shoulder and let him have an 85-grain hollow point. Off he went. The second shot just made another noise in the woods to speed him along, so far as I could tell.

Thinking I could not have missed at that range, I hurried to the spot he had just left. A lot of hair lay on the snow but no blood had left the tiny 6mm hole in his side. I began to track him. Shortly I heard a shot a short distance away. As I approached I found another hunter busy filling out his tag. I talked to him and we looked the deer over. It had two holes in it. One, from his 30-06, went through both shoulders. My shot angled back the side, due to not holding ahead on the running deer, and the deer's stomach was a mess. I was glad the other hunter had finished the deer quickly.

When he found out that I had hit the deer he offered it to me. Even though I wanted the deer badly, I thanked him and declined his generous offer. He too had never killed a deer before, but his generous offer indicated that he was an outstanding sportsman. I showed him how to take a shortcut to his car. He refused my offer of help to drag his deer out, saying that my time would be better spent getting another deer. I appreciated his thoughtfulness. He soon disappeared with his buck.

Four Deer in Thicket

I felt optimistic. I had proved I could hit a deer and I felt a lot better. I ate a sandwich and moved along a few hundred yards. After awhile I returned to my car and changed territory a mile or two. Soon I spotted four deer in an oak thicket. My binoculars revealed horns on one and up came the rifle. I had a standing shot at 100 yards. At the shot three deer ran toward me and one disappeared in the other direction. As I approached the spot I did not need to look for hair as a whole carcass full of it was lying

in the snow. The 85-grain hollow point had entered the chest squarely and my 12-year hunt was complete.

I filled out my tag and dressed the buck like an expert. I'd had plenty of experience here as through the years I was always willing to help a fellow hunter with this task in anticipation of my own big moment.

Goal Achieved

As I cleaned my hands with snow I looked back to a question I had asked myself years ago. How would I react to killing a deer? Would I say, "What did I do that for?" or would I suddenly feel proud of myself for my feat? Now I found that neither reaction appeared. I had an awareness that my goal was finally achieved and I had taken part in a venture as old as time itself. The role of the hunter no longer is necessary to thwart starvation but it is indeed necessary to keep our wildlife in balance with available feed and in good health. Ecology and I had just met on a first-hand basis.

Having cleaned up and put my thoughts in order, I started to drag the deer, which weighed about 115 pounds, the 300 yards downhill to the car. This job was short and required no sweat or toil as he slid most of the way to the car. As I lifted him into the car trunk, two Deputy Game Protectors working the area arrived and checked me out. I headed for home. I had an antlerless deer license I could not fill, a Christmas vacation to hunt squirrels and rabbits, and a mighty fine chunk of venison. The world looked mighty good all afternoon, I can tell you.

Today as I look at the spike rack in my study I am not impressed by its gigantic size of 3½ inches but rather by all that goes into the process, both on the part of the state and the hunter. We are indeed fortunate to have this natural resource readily available. I look forward to another buck this season. But if I must wait 12 more years, it will be worth it.



F. E. MAZUR WITH THE NICE BUCK he collected in the 1970 season, after losing one two years earlier.

A Mended Memory

By F. E. Mazur

THE jewel-embossed canopy of a Northern Tier sky at pre-dawn is reason enough for any hunter to ponder his past. And, indeed, I was no different than any other. The long climb and occasional rest in this, my third year of the sport, allowed me numerous recollections. True, I was no longer the tense, uneasy leg-shaker of two years ago, a hunter whose knees began to buckle at merely the sight of wild game. I had stalked the whitetail with a bow and plucked the feathers of two turkeys in three seasons. Nevertheless, entering the high country on the first morning of the 1970 buck season, I carried inside me an awkward feeling of unpleasantness. Hunting with a rifle was still a new experience, and memories of my first encounter with a white-tailed buck were still pressing firmly on my mind. . . .

Two years before my experienced companions had posted me at the junction of a pipeline and an old, abandoned logging road in western Potter County. I settled down to wait for the drivers to start their push, performing the little tasks that, as an amateur, I thought all hunters do: raising my 243 quickly and placing the iron sights on some remote branch protruding from the snow-carpeted floor, or positioning my feet for the greatest stability, or scrutinizing the darkest niches with my binoculars. As the minutes slowly, almost timelessly, elapsed, a numbing coldness took hold. Somehow, the demands of winter are contrary to the philosophy of patient hunting. But I found that my strong anticipation of the expected raw excitement was a worthwhile panacea for the wintry chill.

Diagonally across from me a soli-

tary doe stepped forth from the brush and scanned the earth about her. Forgetting the cold completely, I raised the binoculars and began a sweep of her surroundings. In a moment, more than a score of whitetails had populated the area, and standing supreme amidst all was a trophy buck whose points numbered quite possibly 10 or more.

Good Shot Impossible

A good shot was impossible, however, because nothing was motionless. Trying to force my vibrating legs into pillars of marble, at the same time I searched my mind for the advice of friends, films and books, but found nothing to meet the immediacy of the moment. I judged his distance to be the length of a football field, and leveled my rifle at his estimated chest height. Then I gave a low, sharp whistle which commanded the attention of the does, which stopped short in their tracks. And as the big fellow took that extra step that made him vulnerable, I fired.

My unpleasantness in the early dawn of 1970 was accountable to the ordeal that followed this shot.

My companions and I, after locating a blood trail and several chips of bone from the rib cage, waited an hour before starting to track. Our quest of the wounded whitetail was first tarnished by the belligerence of a man hunting with his son. Momentarily losing the trail, we were sent into deeper woods on the advice of the older man. Shortly thereafter, we rediscovered the trail and quickly found the man and his son in hot pursuit of my buck. Their presence was sufficient reason for the redoubled survival efforts of the big whitetail which had lain down on three separate occasions.

Eventually, we came to Route 6, a distance of four miles when measured by road. At this point, I wanted desperately to see the animal that was putting forth such a struggle. Yet my wish went unfulfilled. Only a few feet

from the road were two red impressions indicating his last efforts. Leading from these were drag marks to the highway.

I returned home that evening feeling sullen and worn out. Somewhat angry, also. Nevertheless, reflecting awhile uncovered a basic flaw in my own hunting technique. I had used an 85-grain bullet in a 243 lever action, and viewed my target through a set of iron sights. Numerous hunters had instructed me to aim for the chest area. I had, and found that a wide margin for error existed. I had failed to make a clean kill. I pondered the idea of a scope, but I enjoy the taut sensation of maneuvering in close whenever possible. Archery had been my first introduction to hunting. I debated the idea of changing bullet weight or purchasing a different caliber of gun, but the arguments around these matters are as varied as the tones in a Potter County sunset. . . .

Now, the first darting rays of morning began to spread their warmth as I continued my climb to the small, sapling-studded knoll. I was still thinking of the incident when an answer came to mind. Why not the neck area? You either put him down or miss him completely. Although I knew such a conclusion wasn't totally true, the margin of error seemed considerably less. That is, the margin that creates a wounded deer seemed considerably less than with a chest shot.

White Flags

I reached my destination just as a pair of white flags flitted past my vision and scrambled down the slope. Morning light was coming on rapidly now, and with it a soothing balm of warmth. A first day, I thought, that was completely unlike that of two years ago. Finding a fallen, rotten log, I kneeled down to quietly await the arrival of the future. Although the area was not entirely familiar, my cronies and I felt sure there was a buck traversing the ridges. Our calcu-

lations in positioning ourselves were based on limited research in this area and a prior experience of deer mobility. Two members of our group were skirting the foot of the hollow while another waited patiently on the southern rim. Zach and I had parted a half-hour ago. By now he was crouching in the elbow of two T-connected mountains. I was on the knoll.

Hunger started to growl within me. The wearisome climb had exhausted the energy of an early ham and eggs breakfast. From beneath my orange vest, I withdrew a bologna sandwich, a pauper's meal at home, but prime fillet to this woodsman while engaging in his sport.

All around in this house of natural beauty were the numerous early risers, scampering through the wet, yet crisp, fallen foliage. Just as I finished my sandwich I heard behind me the alarmed patter of deer. Slowly craning my neck to the left, I viewed three flat-topped whitetails less than 40 yards from my position. And a few yards ahead of them, a symmetrical set of antlers forked their length around a robust sapling.

I was bewildered at the total absence of fur, body, and head. Yet the unmistakable knowledge of an unproven fact, a mysterious perception which I am certain every hunter has entertained sometime during his career, glued my gaze to that proud little column of wood. Seconds later, a trophy whitetail moved from his concealment. At 70 yards, I swung my rifle a short distance ahead of his chest. Holding my breath, I remembered to seek out the neck. I pulled up several inches on my target and squeezed the trigger. The rifle's crack split the quiet dawn, and a 130-pound whitetail buck dropped.

I returned home that day feeling good. Not ecstatic, just good. An 8-pointer was a fine trophy for anyone. For this hunter, who was no longer a beginner but still not a vet, it was a mended memory.

Game Take Survey

The Pennsylvania Game Commission is launching a new game take survey immediately following the 1971-72 hunting season.

For the past six years game harvest data was attained via questionnaire handouts by law enforcement officers during the season. On a statewide basis, this system produced reliable harvest figures for game such as cottontail rabbits and ring-necked pheasants. However, because the number of questionnaires returned was less than anticipated, the harvest figures calculated for a county or region were not statistically reliable.

Trends in the harvests of all game species within a county must be known if we are to establish the proper game management program for each county. For instance, if the harvest of a particular game animal drops off drastically or steadily declines within a single or several-county area, an immediate field study or investigation would be warranted. The causative agent producing this population decline might be overcome before a drastic loss of animals occurs.

The new survey will be conducted by mail. Approximately four percent of the license-buying hunters will receive a questionnaire on their hunting ventures and success for the season just ending, along with an addressed, postage-paid envelope. The system in no way identifies the hunter returning the questionnaire, except by county of residence.

The cooperation of our Pennsylvania sportsmen has been instrumental in maintaining healthy game populations for many years. It is hoped that the excellent cooperation previously received will continue with this program. If you receive a questionnaire, please fill it out and return it. You will be aiding and supporting a great form of recreation—hunting.

Last Man Gets the Buck

By David S. Bair



CHARLIE FROZE AND THE buck turned in its own length, poured on the coal and leaped for the safety of the woods beyond the tracks and Crooked Creek.

IT WAS AS black as a coal mine at midnight and just as cold. Early 4 a.m. cold. Mac poured coffee, strong and black, into the thermos, stuffed three beef, lettuce and mayonnaise sandwiches into a brown paper bag, tossed in an orange, an apple and two candy bars. He picked up his old red hunting coat and put the food into his game pocket. Setting the kitchen door on lock, he picked up his 30-06 and made certain it was empty, threw the bolt and clicked the

trigger, turned off the overhead kitchen light and walked out his back door and stood under the garage overhang.

Upstairs, half asleep, half awake, his wife heard the click of the bolt and the snap of the trigger. To herself she said, "That man never missed a hunting or fishing date in his life—but on a work day he'd sleep until noon if I didn't call him." And she soundly went back to sleep.

A quarter mile down the road a light appeared. It soon became twin lights on high beams. The car slowed and came to an easy stop. The front door opened and Mac slid his rifle on the floor behind the front seat and became a passenger, a fellow hunter, an honorable member of the tribe. The car pulled out slowly, picked up speed and went north into the night toward Adamsville.

"See you made it," Mac greeted his driver.

"We got a date with a deer. You know I'd be on time," replied Charlie, "I wouldn't miss this for nothing. The first day of buck season is the best day, you know that."

"Suppose Ray and Norm will be there?"

"Most likely. There's been no snow so Norm won't be able to go snowmobiling; he'll be ready to hunt."

"They know about being there on time?"

"They know."

Between Mac and Charlie was a binding agreement concerning time. They agreed before the hunt on a place and time and one would wait for the other exactly five minutes. No knocking on doors, no flashing lights, no phone calls, no nothing. The driver was to arrive on time; the other hunter was to be in the car within the five-minute time limit. If Charlie hadn't

arrived on time, Mac would have taken his car and left without him. If Mac hadn't stepped up to the car within the five minutes, Charlie would have driven away. So as their wives said, "Those guys are always on time for hunting."

Mac said, "No snow, this is going to be tough. You can't track 'em very easy. They'll run all around us in that brush in the bottom."

"Get down on your hands and knees, and you can see their legs through the brush."

"How you gonna check a rack looking at their feet?"

"We'll have to figure that out," Charlie laughed, "Well, our buddies will all be out and they'll have them moving." He was thinking of another group that always hunted the same area.

"Yeah, I watched one young guy over by Grove City planting forsythia on an old strip mine bank. That bank was forty-five degrees and he went up it like a monkey with a pick-mattock in one hand and a bunch of seedlings in the other, and you know that stuff grew on those banks? The conservation people in Mercer came up with that answer and in time it will help rebuild the soil. Anyway those young guys are in better shape than we are."

Big Prints in Snow

"Last year I was sitting on a crossing and I saw an old muley come puffing up over the hill above Adamsville, headed for the huckleberry swamp, about 4:30 in the afternoon. Pretty soon two of those young guys came after her like a couple hound dogs. I didn't blame them, she was big and left a big hoof print in the snow. I told them, 'Boys, you might just as well forget it, that's a big old muley—not a horn on her.' One of 'em said, 'We've been on her since morning, we were sure we were on a buck.' Those were sad boys, but they turned around and went back towards Atlantic."

"That gang will take some deer, but they'll help move the herd around too. You know everybody goes to the big woods the first day, and with no snow they'll have trouble finding deer. They'll be home next Saturday, beating the brush like us."

"Yeah, well, let's hope one of us gets a good buck. There's Norm's Jeep. We're here."

Charlie pulled off Route 18 onto the wide spot where Norm's Jeep was parked. He and Ray stood by it. An old logging road went up the hill into a second growth of a red maple slashing. The men patted their pockets to check for ammo and food. They huddled in the darkness and the group voiced opinions:

Mac opened with, "Charlie, this is your backyard and Norm you're from Atlantic. You guys tell us what we do this morning—up on the ridge or down in the bottom along Crooked Creek?"

"This ain't my territory either,"



SANDWICHES, FRUIT and coffee, tall tales of other hunts, man talk about guns, dogs, and the small game season just past, filled the lunch break.

young Ray broke in. "Cherry Hill, old Salem and Hadley is my area. I've got my deer from a stand the last three years, but I wanted to go with the old experts once. Maybe Norm and I can learn something."

Crossings to Watch

Charlie said, "Well, we can go on top, but there's no snow. Somebody will be on top, if they get 'em going they'll run to Osborn or up to the County Line Road before they get stopped. Let's go down and cross the Bessemer Railroad tracks. There's some crossings beyond that we can watch. Those young fellows could push some into us."

"Don't matter where you pick," Norm said. "If I'm with you the shooting will start somewhere else—like up on the top of the hill."

Rifles slung, the men crossed the road and moved without talking through knee-high grass and weeds for a good 500 yards down to the railroad track. A big drainage ditch protected the tracks like a moat around a castle, but Charlie knew all the places to cross. Across the tracks and under the barbed wire, one man at a time, each handing the other his rifle at the fence. A couple of the hunters had been infantrymen and still could have crawled under that wire on their belly cradling "the piece" like an infant in their arms, but it really wasn't necessary. Besides, handing the firearms over was safer.

Charlie whispered, "Ray, you and Norm stay here on this crossing and watch both ways. Mac and I will be on our bellies over by those sycamores."

And now the hunt began, in earnest, in silence, in motionlessness. Before shooting time, the men were in the woods on a good crossing watching for deer. Guns were loaded and locked. Men scrooched down inside their heavy woolen clothes, one on his belly, one against a tree, one sitting and dug into a gravel bank

and one by old rail fence. They all had several things in common, (1) they were getting cold, (2) they knew the hardest thing in the world was to stay still, and, (3) they were sure the big 10-point was somewhere else.

Each man moved his eyes toward his watch and talked to himself . . . "We should have had snow . . . we've been here half an hour, when's daylight coming . . . some guys are home in bed; they'll get up and come out at 10 o'clock and stumble onto a big buck as soon as they get out of the car . . . the shooting will probably start on the hill up in the huckleberry swamp . . . I'm getting cold, I need a coffee . . . we shouldn't be sittin', I'd rather drive and put two guys out ahead . . . if this was a tribal society that guy Charlie would be the big chief in three counties, he can smell deer in the woods."

Alone With Thoughts

Each man was with his own thoughts as it grew lighter. First the trees, then the contour lines of the pasture lands and the banks of Crooked Creek. A figure moved out of the woods, one of those young guys in blue overalls and a broad black hat. The shooting started up on the hill in the huckleberry swamp. Three shots, silence, three shots, silence.

Charlie knew the young man and he greeted him. "See anything?"

"No."

"Any of your people working down through here?"

"A few."

**The Game Law
Violator Is
Stealing From
You!**

"Some of them go to the swamp?"
"Yes."

We're going to send two guys down the tracks to the old iron bridge to watch each side. If you want to get ahead we might push something your way," Charlie offered.

"No, I'll go back over there."

"Well, see you," Charlie answered. He turned to his own group. "Ray, you and Norm go to the iron bridge, one of you get on the other side and watch that pasture, Mac and I will drive the woods and creek and see what we can spook to you. We'll give you a half hour before we leave here."

Crooked Creek twists and turns and bends back on itself like a little garter snake trying to get away from a small boy. A couple of places along the creek are old log roads from 100 years ago, and recently sawmills have left half-a-house-high piles of sawdust. The deer love the area, and it's almost impossible for two hunters to drive the creek bottom. Charlie and Mac made the drive. Ray and Norm didn't see a thing. It was time for lunch and they all had it with them. Sandwiches, fruit and coffee, tall tales of other hunts, man talks about guns, dogs and the small game season just past.

Skunked So Far

Young Norm with his hep sideburns, mustache and long orange stocking cap, was direct and to the point, "Well, we're skunked so far. What do we do now?"

"We hunt back to the cars," Charlie answered. "When we get there, you drive up to the Adamsville-Jamestown road. Get on top where the old fox farm was and we'll go up through the draw and that red maple slashing. Meanwhile, you and Ray can work the brush and fencerows on each side of that open field before we get to the cars. They come off the hill and travel those rows. Mac and I will take the middle of the field. We need the



A BUCK STOOD UP and watched the three men going toward the cars, but it didn't notice Charlie . . . the last guy in the open field.

rest, we'll be eating brush and thorns all up that hill. When we get there we'll work over toward the swamp. We just might find something on the top."

The men moved out.

Ray took the left brush row and Norm took the right tree line. Mac moved over on an easy path near Norm, and Charlie sat down on the track to straighten a wrinkled sock. Charlie was the last man to enter the open field. The hunters were half way to the car as Charlie approached a small stand of young sassafras trees in the middle of the field. A buck stood up and watched the men going toward the cars. Charlie froze and the buck turned in its own length, poured on the coal and leaped for the safety of the woods beyond the tracks and Crooked Creek. Charlie's rifle went up and the deer went down. A clean neck shot at 100 yards on a running target. Some people would call this a lucky shot, but Mac knew

better. He'd hunted with Charlie before.

Mac, Ray and Norm came running. Mac spoke first, "You really didn't let him get very far did you?"

Charlie replied, "Well, I did have to hold until you guys were out of the line of fire."

Ray said, "A 6-point, nice and fat, he'll go 150 pounds I'll betcha."

Charlie pulled out a nylon cord and a small fine-honed hunting knife and field-dressed his buck.

Mac, "Nice shot, Charlie."

Charlie, "Thanks, Mac."

Norm, "Can you imagine a buck like that right in the middle of an open field?"

Charlie, "Well he could see in all four directions, you guys walked

around him, and I just happened to be the last guy coming into the field, so I got him."

Ray, "Do you know of any more fields with sassafras trees in the middle . . . I'll go in the field last this time."

Charlie, "This one's tagged and dressed, I'll take it to the house and hang it high in the tree in the backyard. We'll still have time to drive that slashing. I can't shoot, but I can help drive."

Young Norm, "It just goes to prove one little thing I've always suspected. Guys that get deer don't find them in a lunch room or riding around in a car. You got to be in the woods . . . or maybe the last guy in an open field."

New Edition . . .

Records of North American Big Game

A new edition of *Records of North American Big Game* has been compiled by the records committee of the Boone and Crockett Club. This book includes approximately 5000 individual listings of trophies which meet today's minimum scores for this continent's different game species, the rank of each trophy, detailed measurements, the name of the successful hunter and the present owner if different. Also of interest to hunters and conservationists are fourteen articles relating to the trophies and trophy hunting, as well as many outstanding photographs. Several new world's records appear in this edition, the first records book published since 1964. The book may be ordered from the Editorial Committee, Boone and Crockett Club, 4400 Forbes Avenue, Pittsburgh, Pa. 15213. Price is \$15 plus 35 cents handling and postage. Pennsylvania residents add 90 cents sales tax.

Minerals Income Up

The Pennsylvania Game Commission's income from oil and gas leases and royalties from various mineral deposits underlying State Game Lands showed a modest increase during the 1970-71 fiscal year, according to John B. Sedam, chief of the Division of Minerals. Total income for the 1970-71 fiscal year was \$116,337. During the 1969-70 fiscal year, the figure was \$105,133. The largest item in the minerals income budget for the past fiscal year was oil and gas rentals and royalties, which totaled \$66,105, compared to \$46,012 in 1969-70.

Game Commissioner Heads Trapshooters

ANDREW C. LONG, vice president of the Pennsylvania Game Commission, has been elected president of the Amateur Trapshooting Association. The honor follows years of dedication to the 65,000-member organization, which includes all of the registered trapshooters in the United States and Canada.

A native of Shamokin, Mr. Long—"Andy" to everyone—has had a lifelong interest in shooting. This led him, at age 12, to the Valley Gun and Country Club near Elysburg, where he worked as a trap boy. At that time this club had two traps. It now has 22, with more scheduled for construction, and is the site of the Pennsylvania State Trapshooting Championship each year, and Andy is now the club's president.

For the past five years, Mr. Long has been Pennsylvania's elected delegate to the Amateur Trapshooting Association, and for four of these years was vice president of the Eastern Zone, one of the association's five divisions whose vice presidents make up the A.T.A.'s national executive committee. He was elected president at the annual meeting in Vandalia, Ohio, with a term to run through October, 1972.

First Trophy

Long started shooting registered trap in 1928 and that year won his first trophy for placing second in Class C competition in the Pennsylvania State Shoot at Ashland. The trophy has been used as a bread tray on the Longs' table ever since. Andy has won numerous shooting trophies in the four-plus decades since, including the national Class A championship twice. He has finished as high as fourth in the national Class AA, and has won the Pennsylvania doubles and handicap championships and the A. T. A. Eastern Zone Class A cham-



ANDREW C. LONG
President, Amateur Trapshooters Assoc.

pionship during his shooting career.

As of December 15, 1970, Long had 69,925 registered 16-yard targets during his shooting career, according to the official A. T. A. averages compiled by *Trap & Field*. Only 166 persons have shot at more. During 1970, he shot at 4550 16-yard targets and had an average of .9591, which placed him in thirty-seventh place among Pennsylvania shooters. He shot at 1850 handicap targets from 27 yards—the maximum distance—and averaged .8443, plus 1800 doubles, average .8938, last year.

At present, Long has seven trap guns, three Browning Superposed models, one Krieghoff, one Parker,

one M12 Winchester, and one Remington M870 TC. He uses the Remington for most of his singles and handicap shooting and normally uses a Browning for doubles, though recently he has been shooting the Krieghoff while gradually modifying the stock to suit him. All trap shooters are particular about stock fit—it makes a difference in scores—but Long must be especially fussy as he has a detached retina in his right eye and cannot permit the stock comb to jar his face during recoil.

Long's extensive experience has convinced him that most trap shooters handicap themselves by using guns that are too tightly choked for 16-yard shooting. Most specify full or improved-modified chokes even for this comparatively short distance. Long, who gets on his birds quickly, has all his over-unders rebored by Herb Orr, of Ohio, so that the first barrel is a bit more open than straight modified, while the second barrel is tuned to give a tight, even pattern with the shells he is using

for handicap shooting or the second shot on doubles.

A retired school administrator with 40 years' service in the Coal Township School District, Long is president of the People's Bank and Long's Gas and Oil Company, Shamokin, and vice-president of Larry's Creek Fish and Game Club, Williamsport. He has served as president of the Pennsylvania State Sportsmen's Association and for the past 18 years has been secretary of that association. He was a member of the Game Commission from 1953 through 1960, and was vice president of the organization from 1957 to 1960. Reappointed to the Commission in January, 1970, he was elected vice president in January of this year.

At every opportunity, Long hunts for small and big game and fishes for trout. Asked about his long career in shooting and the offices related to it, he said: "It has been a privilege and a pleasure serving sportsmen in various capacities. I made many friends and appreciate their confidence."

THE A.T.A.'s EXECUTIVE COMMITTEE is made up of the vice-presidents of the association's five divisions. Shown, from left, Wallace Irwin, Spartanburg, S. C., Southern Zone; R. H. Sailer, Oklahoma City, Southwestern Zone; Maurice C. Hale, Albany, Ore., Western Zone; Marvin Driver, Thurman, Iowa, Central Zone; and Andrew C. Long, Shamokin, Pa., Eastern Zone. Long has just been elected president of the organization.



Days of Yore



TWENTY-FIVE SEASONS AGO, in 1946, the Frystown Hunting Club of Berks and Lebanon Counties, bagged two bears near Proctor, Lycoming County. It was the only time they ever got more than one. Front row, from left, are Guy Krill, Ray Hawer, Ammon Houtz, John Gundrum, Earl Hoffa, Elmer Gibbel, Laurence Kirkwood, Perry Moore and Leroy Hartman. Back row: Lester Schlasman, Roy Yingst, John Krill, Leon Hartman, Marlin Gible, Ken Fahnestock, who submitted the photo, and Guy Behney.

Meat Plants May Process Deer

Meat plants are permitted to process deer, despite some rumors to the contrary. The Game Commission says that both state and federal meat inspection regulations specifically permit plants to process game for hunters. Venison and meat from other game may be mixed with beef, pork or other domestic meat, if desired. Game may not be bought or sold.

Information Needed on Antlered Does

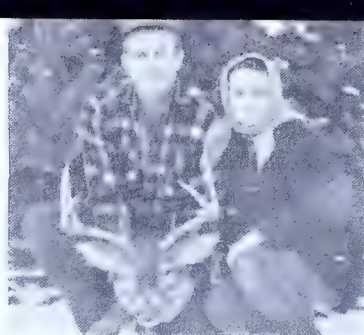
Information is needed on antlered female deer, which are of special interest to scientists. Hunters who harvest such animals may be concerned about the legality of their game. Antlered female deer are legal targets during the two-week "buck" season, November 30 to December 12. They are not legal during the antlerless season, December 14 and 15. Anyone bagging an antlered female deer is asked to call, collect, Dr. J. Kenneth Douth, 412-621-7300. Dr. Douth would like to examine the reproductive tract of the antlered doe, so hunters are asked not to discard these organs when field-dressing their deer.



JOSEPH ESPOSITO, Old Forge, above, with his 10-point Lackawanna County buck. Below, beautiful trophy taken by Ron Barnes, Hampstead, Md., in Elk County.



PAUL VIOLA, below, Murrysville, and his 8-point buck taken with 41 Magnum revolver in Westmoreland County.



MR. AND MRS. Earle Williams, New Castle, and his 8-point trophy taken in Mercer County. Buck weighed over 200 lbs.



JOHN AMENT, and nice forkhorn ter County—his

Pennsylvania



HARRY ICKES, ABOVE LEFT, W hunting. Center, Cary Falck, Lewis ald Bensinger, right, Valley View, Zuklich and Richie Stack, McKees





stown,
n Pot-



LEONARD SNEDEKER, St. Clairsville, Ohio, and 8-point taken in Forest County. It weighed 190 lbs.



JOSEPH HENDRICKSON, West Grove, and his very large 10-point Chester County trophy, above. Below, "Tiny" Lavelle, Montoursville, and fine 12-point.

Whitetails



Ohio, and his first buck in 21 years of 9-point downed in Montour County. Don-nice 8-point whitetail. Below left, John and their bucks.



FRANK AMEYE, left, Philadelphia, with buck he and his brother took in Bradford County. Right, Tom Newcomb, 18, Bethlehem, and his big 11-point trophy.





DENNIS MORROW, New Carlisle, Ohio, left above, and his big Washington County buck. Carl Reitz, Germansville, right, with 13 of the 18 racks he has taken in 35 years of hunting. Below left, Mike Kmetz, Murrysville, and 10-point from Westmoreland County.



BILL SNYDER, Oil City, above, with his big 9-point. Below, Sidney Miller, Mont Alto, and 4-point taken near Waynesboro; ears were clipped, apparently by hay mower, as a fawn.

RON ADAMS, Barnesboro, below left, and 6-point from Cambria County. Right, Kenny Sweigert, Jr., Reading, and his 6-point whitetail.





STANKO,
and 5-point
with Hawken
e-loading rifle.
Ray Marsh,
is, took this big
t buck.



DALE BIEVENOUR, Dover,
above, displays his three big
bucks taken in the 1966, '67
and '68 seasons.



THREE TROPHIES taken in Centre
County in recent years by Dale Miller,
of Howard. Below, Tom and Barbara
Heltman and their son exhibit pair of
bucks taken near Lock Haven last
season.



MARK BOOTS, 14, Ellwood City, and
his father with Mark's fine 9-point buck.
Below, the Rev. Marlin Ressler, Cham-
bersburg, and trophies taken during 25
years of hunting in Pennsylvania.





FIELD NOTES



You Wouldn't

CRAWFORD COUNTY—I can't help but contemplate just how valuable deputies are to a Game Protector in other areas besides law enforcement. Recently, I had two deputies putting on a Hunter Safety Program for 113 youngsters. Two more were signing up close to 1000 acres of land for the Safety Zone Program. Another was banding waterfowl for the Fish and Wildlife Service. One had called about a deer he had picked up from the highway. While all this was being done, more were checking archers for the opening of that season. I wonder how I'd get it all done without them.—District Game Protector L. V. Haines, Linesville.

Everything In Its Place

BUTLER COUNTY—Last summer, I reported that my nine-year-old son had caught six massasauga rattlesnakes in our yard. This summer, several days were spent looking for more, but to no avail. Then the other day before school started, while the children and neighbor children were at play near the front steps, my son heard a snake rattle near the youngest children (ages 2 and 3) and called to me. When I got there the snake was retreating toward some bushes. We caught the snake, medium size with five rattles, and put him in our display case, where he will spend the summer. Before winter comes he will be released in some remote area away from our yard and other homes. Naturalists realize that snakes too have a place in nature and that they should not be indiscriminately destroyed.—District Game Protector W. N. Weston, Boyers.



Always the Way

PERRY COUNTY—Received a report concerning a woman who had her kitchen invaded by a woodchuck. Where was her husband at the time? You guessed it—woodchuck hunting.—District Game Protector L. L. Everett, Newport.

Our Kind of Guy

I now have my doubts about shooters—accurate ones, that is. I guess they can be born. I picked a lad from a group of Cub Scouts to demonstrate Daisy's quick skill shooting with an air rifle. After an explanation and demonstration, he hit the bullseye of a stationary target on the third shot and hit three of five thrown targets, one a 25 cent piece which he kept for a souvenir. Then he hit two moving clay targets with a shotgun. He is nine years of age and this was the first time he ever fired a gun.—CIA R. D. Parlamen, Franklin.

Surprise

LAWRENCE COUNTY—My deputies often pick up material from my garage and other equipment they need to help satisfy the many demands of the public. A few rush in to grab the supplies, but most proceed with caution because of the sometimes unusual contents of the building. The other day, while returning a raccoon trap, one deputy heard and recognized the sound of a rattlesnake close to his feet. With a yelp, he threw the trap down and scrambled for the doorway before he realized the reptile was caged.—District Game Protector C. A. Hooper, New Castle.

A Matter of Semantics

BRADFORD COUNTY—Upon finishing a Hunter Safety Program at the Mosherville School, I told the students they could buy the shoulder patch for a quarter. I then proceeded to tell them that they would be on sale in the school office the next day. One youngster raised his hand and asked how much the patches would be then. I told him a quarter. He said that wasn't much of a sale.—District Game Protector W. A. Bower, Troy.

A Real Good Neighbor

LANCASTER COUNTY — Some people surely are queer ducks. Had a call from a very irate lady who complained that someone was shooting close to her house. When I tried to get more information from her, she wanted to know why I was asking all of the questions. I told her that she might have to appear in order to get a conviction. She promptly hung up, saying that I should forget it as it was one of her good neighbors.—District Game Protector J. P. Eicholtz, Strasburg.



Seems Logical

LUZERNE COUNTY — Who was the Waterways Patrolman that consistently shot high during a pistol instruction course at Hershey this summer, and then tried to solve the problem by removing his shoes?—District Game Protector T. Vesloski, Plains.

Missions of Mercy

LUZERNE COUNTY—During the last few years, it seems that law enforcement officers have been depicted in news photos only when they have had to use force in apprehension of lawbreakers. Knowing that all officers provide much other useful public service, I wish a photo could have been published of a scene my wife and I witnessed on Interstate 80. A Volkswagen had upset and a young man and woman were injured. I walked back to see if I could be of assistance. The young lady was lying on the ground, covered by a blanket and evidently not injured seriously. The young man was sitting on the ground and a State Trooper was carefully applying emergency bandages to cuts on his back, neck and head. I am sure that these officers go on many more missions of mercy than on calls where force is necessary.—District Game Protector R. W. Nolf, Conyngham.



Something In There Somewhere

ELK COUNTY — While checking archery hunters in Benezette Township, I found a successful hunter who told me he had killed a doe deer. The weather was quite warm and he was concerned about his deer spoiling. I asked to check the deer, and he took me around back of the camper to a tree with a real bundle hanging in it. The deer had several sheets and some hunting clothes wrapped around and around and tied with a heavy rope. I am sure nothing could have gotten into the meat, but I wonder if he was keeping it cool or making it warmer.—District Game Protector H. D. Harshbarger, Kersey.

Another Kind of Kook

I recently apprehended a litterbug while driving through Stony Creek Valley. The litter turned out to be torn-up mail, all postmarked the day before and addressed to someone other than the defendant. With the assistance of two postal inspectors and Game Protector Packard, it was learned that the defendant had robbed the mail from a rural mailbox.—Land Manager B. D. Jones, Dauphin.

Great Idea

MERCER COUNTY—I have heard of being born with a silver spoon in the mouth, but I like this better. While on duty at the Game Commission display at the Stoneboro Fair, John Loccaisano of Ellwood City asked if he could buy a 16-year subscription for Jonathan Kelly, also of Ellwood City. Young Jonathan was born July 25, 1971, and was named after Mr. Loccaisano. The subscription was to begin in December of 1971 and run for the next 16 years. Mr. Loccaisano says, "GAME NEWS will make a sportsman and hunter out of him."—District Game Protector B. K. Ray, Sheakleyville.

Visitor From Finland

LANCASTER COUNTY—At one of our hunter safety classes we had a very unusual student. This gentleman was Jorma Hyvarinen, manager of the ammunition department of Sako Arms Company of Finland. He was visiting Deputy Bob Treisch at the time and attended our course. He was very interested in how the course was presented, the students, and what was taught. After the course he explained how difficult it is to get a hunting license in Finland. He also told us he gets GAME NEWS every month, and after he is finished reading it, he passes it to the other readers in the Sako plant.—District Game Protector T. L. Fox, Ephrata.

The Bow Benders Strike!

SOMERSET COUNTY — Had a good turnout of bow hunters on the first day of archery season. Checked three bucks and one doe taken the first day.—District Game Protector E. W. Cox, Somerset.

Takes All Kinds

CLARION AND JEFFERSON COUNTIES—A Game Protector sees many unusual sights while on night patrol. There are many nocturnal animals to be seen and also many unusual human behavior patterns. Recently I observed a strange looking light on a hill far from any house. Investigation revealed a group of young people holding an outdoor dance in a rainstorm at 3 o'clock on a Sunday morning.—Land Manager L. L. Harshbarger, Knox.

Naturally

BLAIR COUNTY—In attempting to catch an injured whistling swan, Larry Harshaw, southern Blair County Game Protector, misjudged his flying tackle as the swan raced back to the pond. Result—one soaked game protector and one captured swan which was treated and released. Oh, yes, Larry is now receiving calls to teach swan dives.—District Game Protector P. R. Miller, Bellwood.

Beats Migrating

WASHINGTON COUNTY—At a recent County League meeting, George Gray, delegate from Charleroi Sportsmen's club, stated that while fishing in a pond along Route 170 he saw a beaver. There was much scoffing among the delegates and George was asked how the beaver got there. He stated he had heard that when the big tractor trailer trucks stop up north, beavers crawl up underneath and hitch a ride. He suggested that when the trailers slow down on the slight grade on Route 170, the beavers drop off. One delegate jokingly said, "Maybe you should post a deputy in a boat underneath the Charleroi bridge and count the incoming beavers on the trucks, Jim." —District Game Protector J. M. Kazakavage, Washington.

Better Not Miss

BEDFORD COUNTY—I received quite a few questions and heard a great many old wives' tales concerning snakes, while working at our exhibit at the Bedford County Fair. These were of course prompted by our display of live poisonous snakes. Most of the stories were just versions of tales that we have all heard, but I did hear one new one. This tale has it that if you shoot at a poisonous snake and miss it, your gun will never work again. If true, there must be quite a few non-working guns just in this part of the country. — District Game Protector C. J. Williams, Bedford.



Information, Please

MERCER COUNTY—Some questions that stick in my mind: How do you age a snapping turtle? After a skunk has fully unloaded, how long does it take him to recharge? Under the new law, won't it be legal for my 5-year-old to hunt with his BB gun anymore? Can I carry my blank pistol while archery hunting? How big is a little chipmunk? Why are you getting bald? I think the answer to this last one could be found in the first five questions.—District Game Protector J. A. Badger, Mercer.



CONSERVATION NEWS



PGC Photo by CIA Steve Kish

UNFORTUNATE SCENES LIKE THIS one on Interstate 80 near Hazleton occur far more often than most people realize. In 1970, 21,599 deer killed by vehicles were removed from Pennsylvania's roads.

Deer and Motorists—Can They Coexist?

By H. B. Graves and E. D. Bellis

BIG GAME SPECIES such as our magnificent white-tailed deer have awed and excited man since the beginnings of civilization. The traveler thrills to the sight of a big buck grazing by the highway and to the herd of whitetails disappearing into the woods at dusk. As our mode of life grows faster, more crowded, louder, and more complex, such sights become increasingly pleasurable. Unfortunately, most wildlife species have difficulties coexisting with man, his machines, and his byproducts. High speed transportation systems have occupied much of our former wilderness habitats and many big game animals are being

killed by vehicles on our highways. The yearly toll of deer and other wild game on highways in this country is staggering. In Pennsylvania alone, over 21,000 deer are reported killed on highways each year; many thousands more are crippled or killed and never reported.

Motorists, in turn, are endangered by wildlife. Collisions of vehicles with deer result in extensive property damage and occasional loss of human life. Until the vision of elevated rail transport streaming passengers over undisturbed habitats becomes a reality, we will have problems protecting travelers and wildlife from each other.

Our concern about transportation-wildlife interactions has led us to studies of deer behavior and mortality along Pennsylvania highways. This work has been supported by the Institute for Research on Land and Water Resources of the Pennsylvania State University and the Pennsylvania Game Commission. Our most intensive efforts have been concentrated on two eight-mile study sections of Pennsylvania Interstate Highway 80. The areas differ markedly except for the presence of a high speed four lane highway and an abundance of white-tails. The numbers of deer in the regions studied were probably quite similar and traffic volume, speed, and composition were likewise comparable. Yet 286 deer were known to have been killed by automobiles in one of the study areas during a 14-month study period, and only 40 deer were reported killed in the second study area during the same period. Reasons for this difference in deer-automobile collisions are becoming increasingly apparent to us and may suggest ways in which specialists from various disciplines (Bellis is a vertebrate ecologist and Graves is an ethologist, or animal behaviorist) may contribute information which will ultimately provide the public with a greater degree of safety and yet permit more enjoyment of our natural resources, including wildlife.

One of our study areas is located in northcentral Pennsylvania near the town of Snow Shoe where Interstate 80 cuts through a heavily wooded, sparsely populated region of the Allegheny Plateau. The other study area is located in eastern Pennsylvania east of Bloomsburg where I-80 traverses an agricultural region.

Each area was divided into numbered 200-foot intervals by existing road markers or by wooden stakes which we placed along the highway. Deer-kill information was obtained from Game Protectors responsible for the two areas (DGP David Sloan in

the forested area and DGP Edward Sherlinski in the agricultural area) who filled out one of our data sheets for each carcass found on or adjacent to the highway. These data sheets were then mailed to us, transferred to computer cards and analyzed.

We attempted to relate the number of deer kills in a 200-foot sector of a study area to causative factors such as topography and vegetation. Graduate students from Penn State (Blair Carbaugh at Snow Shoe and Joseph Vaughn at Bloomsburg) were also studying live deer in the two study areas in order to determine behavior and activity patterns of deer seen from the highway. We were, therefore, able to evaluate our results in terms of why deer are attracted to highways as well as in terms of where deer are most likely to pose potential threats to motorists.

Basic Finds

Basic finds were clear. During times of food stress deer will be attracted to clearings with vegetation whether a highway happens to traverse the area or not. If the highway occupies a major portion of the clearing, as at our Snow Shoe area, the probability of a grazing deer being hit by a vehicle is high. If the highway makes up a relatively minor portion of the clearing, as when it traverses farming areas such as that near Bloomsburg, deer attracted to the clearings and the vegetation are much less likely to be hit.

The type and amount of vegetation adjacent to roadways undoubtedly influences deer movements along and across the traffic lanes. The clover, grasses, and vetches along berms of many of our Pennsylvania highways may attract deer to graze at certain times of the year; however, it is debatable whether deer actually eat significant quantities of vetch or not. Studies by the Pennsylvania Cooperative Wildlife Research Unit at the Pennsylvania State University should soon shed light on this issue.

Also of importance, especially in agricultural regions, is the placement of the highway relative to cultivated and wooded areas. Most deer hunters, at least most of the successful ones, know that deer often feed in croplands at night and seek out cover during the day. Sections of highways which separate croplands from bedding areas are therefore likely to have high deer kills. Motorists should be most cautious of deer just at the time of day when it is most inviting to gaze at a glowing sunrise or sunset.

Censuses of deer in the study areas by Vaughn and Carbaugh showed that most deer are sighted near the highway between the hours of 6 p.m. and 4 a.m. However, the general picture is that deer come to the highway rights-of-way (in heavily forested areas such as Snow Shoe) or to the croplands, if available, at dusk and graze for two to four hours. Many then lie down or return to the woods for a few hours, probably to ruminate (digest their food). About four hours before dawn the number of deer grazing in a particular area again rises. At daylight the deer return to wooded areas for the remainder of the day. Thus, dusk and dawn are times of high deer activity and the probability of a motorist striking a deer is highest during these hours.

At the present time, fencing the highways seems to be the only reasonable solution to keeping deer off traffic lanes. However, it may be possible to modify the placement of highway fences so as to make them more effective in safeguarding motorists from deer and domestic animals. Most fences are now placed at rights-of-way boundaries and deer are fenced off the cleared berms and away from

planted vegetation along the highway. Especially in heavily forested areas, it may be desirable to construct fences closer to the highway so that deer are given access to planted areas and yet are kept off traffic lanes. Blair Carbaugh studied deer behavior and activity along highway rights-of-way in a heavily wooded section of Pennsylvania. Over 3600 deer sightings were made during the course of a year, and most of the deer (70 percent) were grazing. Twenty percent of the animals were walking or running, many as a result of the spotter's activity.

Since most deer in wooded regions come to the highway to graze, they may have little incentive to attempt crossing a fence onto a paved highway if they do have access to other vegetation. Fence construction costs might also be lowered by such a plan, and maintenance would certainly be easier and less expensive. Of course, fences themselves could pose potential danger to motorists if constructed too close to the traffic lanes, but again exchanges of information among specialists should provide acceptable solutions. The idea that extensive highway rights-of-way could, with proper planning and cooperation, be returned to wildlife for their use and simultaneously increase the motorist's safety and enjoyment deserves consideration, we believe.

The authors of this article are faculty members at Pennsylvania State University. Mr. Graves is an Assistant Professor in the Department of Poultry Science, engaged in the study of animal behavior, and Mr. Bellis is a Professor in the Department of Biology.

But Where Were They Going?

White-tailed deer have been seen swimming five miles out to sea, their air-filled hair affording them considerable buoyancy.

Hunt Safely in Pennsylvania Time

Governor Milton J. Shapp has proclaimed the period of September 25, 1971, through January 15, 1972, as "Hunt Safely in Pennsylvania Time." Recognizing that hunting in Pennsylvania offers outdoor recreation for more than one million residents and over 100,000 nonresidents, sportsmen who enjoy the wholesome outdoor atmosphere and our abundant wildlife resources, the Governor stressed the necessity for safe gun handling procedures and the recognition of the rights of landowners. Noting that the Game Commission recently completed its second year of mandatory hunter safety training for sportsmen under 16, during which over 63,000 students were certified, he encouraged all hunters and qualified instructors to participate in this program. The Governor urged every hunter to do his utmost toward reducing hunting accidents in Pennsylvania.

Duck Stamp Sales Rising

Sales of federal migratory bird stamps (duck stamps) continue their steady rise in Pennsylvania and have set a new record, according to the latest figures available from the U. S. Fish and Wildlife Service. During the 1969-70 year, duck stamp sales in the Keystone State totaled 67,224, compared to 58,055 in 1968-69. This is an alltime record for the state. Sales of duck stamps have climbed steadily in Pennsylvania since 1961, when 25,684 were purchased by waterfowl hunters.

Editorial . . .

(Continued from Page 1)

pasture and bullets came whizzing by our heads. One time, my husband chased some hunters through the fields. "We were only hunting woodchucks" was their meek reply. I just looked in the mirror again, and I still don't think I look like a woodchuck! Speaking of woodchucks—did you ever take a walk through the fields on a hot summer day, taking in the fresh country air, when this pungent smell stings your nostrils and waters your eyes? Naturally, there lays a dead woodchuck on your fence. Where else do you put a dead chuck? I have a few ideas of where I'd like to put these dead chucks! I wonder what would happen if the situation were reversed?

Then there was the day when four 16- and 17-year-olds were shooting at something in our pond. Trespassing? Suddenly one of them turned, aimed, shot directly at the house, just missing one of my horses standing at the gate. As I approached them and asked them what they thought they were doing, they looked at each other, shrugged, then slowly left, just as I turned to call the State Police.

Or how about the day a small doe came running down our driveway, through the yard, over the fence and headed toward the cornfield with five dogs chasing her? After my husband attempted a few shots at them (yeah, he nicked one) my brother jumped on our snowmobile and ran circles around the dogs so the small and tired doe could escape. Then later, when we met the owners of the dogs (fox hunters) we were riding our "sled" in our hayfield and they had the real gall to tell us to get the ——— out of there with that &%%\$ &—%' machine because we were ruining their hunt! Yes, "Mr. Sportsman," you have every right to chase me off my property (after you pay our mortgage and taxes). You're a stranger to me and please don't come back with your dogs. You're not welcome.

Then there's the day someone shot at the house, hit the tree—just missing our picture window—and missing my head by about two feet. Yeah, I was sitting in the lawn chair and I must say, "Mr. Sportsman," you're a pretty good shot. Of course, we've had the usual run of the mill stuff—fence cutting, packs of dogs, tearing our posted signs down—wouldn't

you post, too? And, of course, trespassing.

Or how about the time my husband and I went away and left the outside lights on—very bright, easy to see—and returned home at 11 p.m. and heard a dog barking in the pine trees only a few yards from the house? We could see the hunter's flashlight and surely he could see our house lights and the car lights. But, being a true "sportsman" he stayed and let his dog howl. After listening to his dog until midnight—after all, we have to get up early in the morning, even if you don't "Mr. Sportsman"—I forgot I was a lady, grabbed the pistol, turned on the lights again, opened the door and fired a few shots at the stars, thinking he would get the hint. That didn't have too much of an effect, as the dog kept howling and the flashlight was in the same spot. So, I fired a few more shots. Guess I woke up the idiot behind the flashlight because he hurried to his dog and (like I said, I forgot I was a lady) I let him know in no uncertain terms to leave. Trespassing? Too bad!

Now take this past deer season when "Mr. Sportsman" shot two beautiful bucks. Congratulations, Sir! Not everyone can shoot two very nice 8-point bucks, especially *on the first day of doe season!* Mr., you'd better trade in that gun for a doe gun. Please don't come back next year!

In the five years we've lived there, exactly *one* stranger stopped at the house and asked permission to hunt. The others just park along the road or in our drive.

Also, this past season, I had gone into the barn to feed the horses, when all of a sudden a war broke out in the field behind the barn. Bullets were everywhere, hitting the barn and the trees around. I didn't dare go outside until the shooting stopped. Or so I thought. As I walked around the corner I saw two does running toward the back of the barn and the shooting started again. I took refuge behind a fencepost (not much of protection, but a little bit of hope and a prayer). For the love of Pete, couldn't you see our barn, "Mr. Sportsman"? Wonder what would happen if I came into your backyard and started shooting? You, too, please don't come back.

How about the times my husband, father, and brothers went out to hunt in our fields and woods and couldn't find a spot to even stand because there were so many strangers having a real "field day"?

We found three deer in the woods which someone had shot, but didn't have enough

"leg power" to track or "conscience" to report.

From this article, you're probably thinking I'm against hunting. Well, I'm not. I get almost as excited as the hunter who bags his deer and feel hunting is the men's sport. It's not my "bag," but I do enjoy going outside during the day and it seems that my life and property are in jeopardy. Maybe I should start shooting back before I lose an arm, leg, horse or my life? Maybe it's time I start shouting "wolf"? Do we have to put up with this nonsense and fix fences year after year and the barn roof, too? Is this payment for your hunting on our property? I think it's time to start weeding out these guys and let them know this is Private Property. It isn't only strangers I'm complaining about, but relatives, too. How many times we've invited them out (not during hunting season) and they give us the excuse "Oh, it's too far to drive." But come the opening day of hunting season and there they are, 6 o'clock in the morning, big grin on their faces, gun in hand and saying "Let's go hunting." Revolting!

And please quit dropping off your unwanted dogs and cats! We're just shooting them anyway. Use the Humane Society. You're paying for it anyway.

So, "Mr. Sportsman," please stay off our property until *YOU* can start being a true sportsman and hunter, and watch where you're shooting and at what.

Needless to say, this property will be posted again this year as these strangers are no longer welcome. I'm going to continue riding my snowmobile and if I hear any more "guff" from anyone I'll again call the Game Protector. Sorry!

"Thanks," Mr. Sportsman, "for all the problems you cause us people who live in the country year round. If this is the way you're going to act in the woods, please leave your car in the driveway, your gun in the closet and watch T.V. Or take up golf—we don't need you.

I'm not using any names in this article because I believe when it is read, these people will recognize themselves. Soon, hunters again will be out hunting small game and when they find "Posted" signs, they'll know why the property is posted. And, if they have any decency at all, they'll leave the signs alone and, like I said (and hope) they'll stay home or go golfing!

—"The Landowners"



WILDLIFE TIE TACKS OF STERLING silver created by Sid Bell, Tully, N. Y., make fine Christmas gifts for outdoorsmen, Rountree feels.

Christmas Is Coming, So . . .

Mark the Catalogs!

By Les Rountree

WHEN I WAS a kid one of the best ways to spend a winter evening was to study the L. L. Bean catalog or the Stoeger Shooter's Bible. Any catalog would do, however, if it contained a sizable number of outdoor accoutrements. Great adventures would be planned while leafing through the pages, and there was scarcely an item listed that I couldn't find a reason for wishing to own. To be perfectly honest, I still get a little excited when a new catalog arrives, because on every page I find something that I can't live another day without. The Christmas season intensifies these desires and I'm sure it must be that way for all who do things outdoors. There's always a new item that

you must have, or replace, or you know someone else who must have it. Gift giving time is great for the camper, either as the giver or the givee. But what to give? It just so happens that I dearly love to suggest Christmas gift ideas. Some of my ideas may not fall on deaf ears.

I'm going to suggest some very ordinary things, but the first thing I'd like to mention is not ordinary in any sense of the word. There is a craftsman named Sid Bell who lives up in Tully, N. Y. 13159, who makes the most exquisite jewelry for outdoorsmen and women that I have ever seen. If life can be breathed into a piece of silver, Sid Bell can do it. Replicas of game animals, fish, dogs, etc., they



EVERYONE LIKES SMOKED game and fish, and this unit makes it easy for anyone to be an expert at this chore. It does a lot in a reasonable time.

are carried in some jewelry shops and the Orvis catalog lists some tie tacks and other items. His production is not great, and because of this it is surprising that his items sell for such reasonable prices. The tie tacks start at about \$10 in silver, and other items such as ladies' pins run up to \$30 or so. If your budget calls for something in this price category, it's worth going to the trouble to locate some of Sid's work.

The Ned Smith game bird prints from *Field & Stream* magazine are also outstanding gifts. I say gifts because there are eight birds in the set and it really amounts to eight gifts in one. They sell for \$25 and are beautifully reproduced on top quality paper. And any GAME NEWS reader who doesn't know who Ned Smith is . . . isn't a GAME NEWS reader.

Readers of this column know that I like to cook and eat, and along these lines I'd like to recommend the Little Chief Smoker manufactured by Luhr Jensen, Inc., in Hood River, Ore. This all aluminum electric smoker sells for

\$35 and will cure 20 pounds of fish or meat in 10 hours. Comes complete with a box of hickory chips and complete instructions. For smoking fish or game of any kind, it makes a pro out of the worst chef in the world. I don't know anyone who doesn't like smoked meat. You can't take it camping with you unless you have an electric hook-up, but it sort of brings the flavor of cooking outdoors to you the year around.

Jim Bashline talked about knives from two Pennsylvania makers in the October GAME NEWS and I'd like to borrow from him and suggest that you think about cutlery for gift items. Not just for the hairy-chested one, but for Mrs. Outdoorsman also. *He* knows what kind of a knife he wants, and if you ask him he'll tell you. *She* may not know, but I'll bet that every knife in the kitchen or the ones that go along on the family camping trip are as dull and ancient as a rusty tomahawk. A good set of kitchen knives or a genuine French chef's knife would make her as happy as a new mink coat . . . well, almost.

If you do buy a knife, don't forget something to sharpen it with. A good stone can't be beat for working up a fine edge, and Russell's, of Fayetteville, Ark. 72701, can provide oilstones of all sizes or complete sharpening kits. For keeping the edge sharp after you've worked with it awhile, Case Cutlery in Bradford, Pa., has come out with a thing called the Moon Stone. It sells for \$5 and if you follow instructions will keep up a blade in six strokes. No foolin'.

The best buy in clothing that I've run into in a long time is a lightweight down sweater from 10-X Manufactur-



ing Co., 100 S.W. 3rd Street, Des Moines, Iowa 50309. They call it a sweater because the outside material is not heavy duty and will not wear well in heavy brush. I've tested one out thoroughly and it's the equal in warmth of jackets costing twice its \$30 price tag. It comes in red, green and a reversible job that is blaze orange on one side and camouflage on the other. Warm by itself, with a lightweight windbreaker over it, you'll be set for below-zero conditions.

Shoes and Space Blanket

Another great gift item for campers if they also happen to be serious hikers are the Tyrolean hiking shoes from L. L. Bean, Freeport, Me. These soft suede, Vibram-soled walkers weigh only three pounds in my size 13 and less in normal sizes. They are glove lined, feature speed laces, and are really comfortable from the minute you put them on. They sell for \$20.

King-Seely Thermos Company, Norwich, Conn. 06361, is now marketing the famous Space Blanket, and if you don't have one of these in your kit, why not? Buy one for yourself or for your camping buddy. I keep one in my car at all times. They weigh practically nothing and are almost as indispensable as a flashlight after you've owned one for a month. As a ground cloth underneath sleeping bags, they are tops. As a tent fly, tablecloth, emergency litter, or to wrap up in at a football game, everyone finds a new use for these within an hour after unwrapping one. Sells for about \$8.

Here's an idea for the handy youngster around the house or a handy oldster as well. How about a bootjack? A very functional item at the old lumbering camps, a bootjack has not yet outlived its usefulness. When wet feet from a dunking or perspiration makes boots hard to get off, a bootjack saves a lot of choice words. A few pieces of wood and a nail or two and you're in business. Mine's pictured with this column, but don't copy it exactly. . . .



MOON STICK IS A new sharpener that puts a fine edge on a knife with only a few strokes (top). Well known Space Blanket has many uses in the outdoors—as a windbreak, to keep sleeping bag dry, etc. (center). For the youngsters who want to make something for Dad, a bootjack is easily put together, costs little and is exceedingly useful. See text for addresses of companies supplying items shown in this article.



THIS SOLAR COOKER is something new for the outdoor chef who thinks he's cooked by every possible method. Here, the sun does the work while you relax or go hunting.

I think my dad has it patented (just kidding, of course). Use wood screws and varnish it for good looks. Mine is nailed together but wood screws would probably make it last longer. I carry it in the back of my car during fishing season and move it into the house during the fall. Helps to take galoshes off too.

How about calling turkeys? Want to learn how to do it right? Penn's Woods Calls in Delmont, Pa., puts out a record that teaches you how. They also make turkey calls. If you want to be tuned up for those spring gobblers, this is the time of year to start practicing. The records and the calls were produced with the help of Mr. Turkey himself, Roger Latham, and that's good enough for me. Harvey Graybill, Pennsylvania's champion caller, is featured on the record, and so are several other top callers. The record and mouth type caller with instructions sells for \$2.49.

And to go with all those flashlights you bought after last month's column, batteries make excellent stocking stuffers. There is nothing worse than a flashlight that doesn't work.

Campers, hunters, hikers and fishermen are always in need of more gloves and socks. But be sure to find out what their preferences are. Some people just can't stand 100 percent wool next to their skin. I happen to be one of them. Blends of wool and nylon are the most durable, and they're very warm. Same holds true for gloves. Some like leather gloves and others can't stand to wear them. For hunting, spring camping or general all purpose use, a good pair of buckskin form-fitting gloves are tough to beat, in my opinion. They fit like a second skin and you can do almost anything while wearing them. If you happen to be an outdoor cameraman, a pair of deerskin gloves is a necessity. Film can be changed while wearing them and all camera adjustments can be made with ease. A really good pair of gloves can be purchased for about \$7.

Hunter's Vest For Photog

Speaking of photography, I ran into a chap last fall who was wearing a hunting vest but not carrying a gun. He was a professional photographer and had discovered that a hunting vest was ideally suited for carrying film, extra lenses and all the other gear that photographers seem to acquire. You don't have to be a pro to figure out that a multi-pocketed hunting vest, complete with game pouch, is made to order for shutterbug equipment. Rather than having to carry a camera bag or have one draped over your shoulder, everything is carried with you and both hands are still free for instant action. If the photographer in question also happens to be a hunter, the gift will serve a dual purpose. Grouse feathers in the aperture of a telephoto lens may cause some trouble, however.

Davis Instrument Corp., 857 Thornton Street, San Leandro, Calif. 94577, has a new product that is a delight to those of us who are eco-minded. Their Solar Cooker uses the sun's heat to cook a meal in about 12 minutes. It is

fun to take on a camping trip or the kids can cook their own hot dogs in the backyard. There is no flame and no fire so they can't get hurt. It sells for \$9.95, and extra foil and skewers are available.

Items Under \$3.00

Here's a list of outdoor items that cost under three bucks . . . some of them much less than that. They are available in most outdoor shops.

- Ute Mountain's Metal Match
- Carborundum Sharpening Stone
- Clip-on Sunglasses
- Pocket Sewing Kit (the kids can make one for a present)
- Copy of *Pennsylvania Birdlife* (available from the Game Commission for \$1)
- Red Bandannas
- Blaze Orange Suspenders
- Boot Grease
- Crow, Duck and Goose Calls
- Caps
- Folding Hiking Cups

Trying to find out exactly what someone would like to receive for Christmas can be a problem. It helps if you let people know what you'd like to find under the tree. I discovered long ago that marking an outdoor catalog with a red pencil is helpful. Of course, you must make sure that the magazine is properly dropped in the right places and allowed to remain open to the right page. Another good trick is to complain about your old _____ (fill in whatever you'd like) and announce that it probably



VIBRAM-SOLED hiking boots are exceedingly comfortable, give good traction, wear well. Speed laces and snug top are useful features.

won't last another season. If clothing is likely to be given, make up a list of sizes and post it in a prominent spot so everyone in the family can plainly see you are a size 40 regular or whatever.

Oh, yes . . . don't forget! **GAME NEWS** is a gift that lasts all year. Your local Game Protector has the application blanks or you can write direct to the Game Commission. Address is in the front of this magazine.

Merry Christmas from Les Roundtree!!!

Deer Mortality Up for First Eight Months

Deer mortality in Pennsylvania for the first eight months of 1971 ran several hundred above the figure for the same period in 1970, 14,435 compared with 14,213 last year. During January through August, 12,099 whitetails were killed by vehicles on the state's highways, 358 were lost because of crop damage, there were 550 known illegal kills, and 976 were victims of dogs. Deaths due to other causes totaled 452. Winter losses are not included in these tabulations.

Hunting Contests

By Keith C. Schuyler

Photos From the Author



BOW HUNTING is always a greater challenge than gun hunting, which doubtless is one reason its popularity is growing. Squirrels make tough targets even for the experts, but there are enough around to make good hunting.

"I COULDN'T care less."

This sacrilege has been uttered by countless bow hunters who stay away from organized archery simply because they are not interested in target shooting. Of course, it is only a sacrilege in the eyes of those who walk around with bullseyes on their pupils and who can't spell *bow* without putting a 10 in the middle of the "o." The roughly 1½ percent of Pennsylvania archers who are target oriented sometimes forget that interest in archery runs about 50 to one in favor of hunting in this state.

If I haven't stirred up something by this time, it has not been for lack of trying.

This column continually defends and promotes that 1½ percent who are really the backbone of archery in Pennsylvania. It is their time, their work, and their money which has been largely responsible for the advances in this state and elsewhere. However, whether they like it or not, the other 98½ percent are attached to that backbone by a mutual love for the sport of archery. We are all in this together.

So, what are we going to do about the fellow who "couldn't care less" about shooting at targets? Many of these archers have nominal membership in clubs simply "to help out." But they don't take part in activities and rarely, if ever, even come around to see what is going on. Many are the reasons for this.

The main reason for most, nevertheless, is simply that they do not want to shoot competitively. They are either limited by time or the desire to refine their tackle for the target line. But—

and we shall never lose sight of this—many of these bow hunters are excellent shots with the tackle they carry at the normal distances at which they find game. They rely on stalking skill and woodsmanship to get close enough to do a good job at their effective ranges.

It has been proved many times that some of the best shooters on the target line fail miserably in the hunting field, so let us not look down our noses at the fellow who is too embarrassed to ask how you even *score* a paper target. He may shoot rings around us when it comes to hunting, even though they may not be 10-rings.

This is not to say that every hunter who avoids organized archery is a good shot in the field. Far from it. *Many* of those who go out with the bow during hunting season can be identified as bow hunters only by the licenses they carry.

But they *are* bow hunters! So, those of us in organized archery also should accept the responsibility to entice as many as possible of these hunters into competition. We can do each other a lot of good. How many times has a new member in your club answered the question, "Why didn't you ever join before?" with the answer, "Nobody ever asked me"? This should be a clue that there are plenty of archers wandering around just waiting to be asked.

Hunting Contests

In 1970, our club tried something which had modest immediate results but has paid big dividends. At the regular trophy shoot, a class was set up for those who had never shot a field range before. They didn't even have to be members of the club. Only six participated, but three trophies were given for the top scorers. Out of this came several new members, a new secretary, and a third-place winner in the hunting contest.

That last is a clue as to what this column is all about. Hunting contests

are nothing new, but possibly every club should have one. Let us never forget that the bow and arrow was first used many thousands of years ago for the purpose of taking food. This will continue to be a secondary contemporary purpose until the next depression. But hovering over the Olympics in 1972 will be the ghost of the



IN A HUNTER'S CONTEST, a buck scores the same as a doe, except that one point is added for each antler point, which adds to the interest of the chase.

first man who learned that he could kill an animal with minimum danger to his person for the first time. That is how it started. Hunting will continue to attract more to the sport of archery than any other activity with the bow.

Let us keep in mind that although organized archery on a large scale had its official beginning in this country in 1879 at Crawfordsville, Ind., when the National Archery Association was formed, its first president was J. Maurice Thompson; and Maurice is best known for his hunting experiences chronicled in *The Witchery of Archery*, published in 1928. Further, it was in Chapter 2 of this book that Thompson penned the line which has become

famous to toxophilites the world over, "So long as the new moon returns in heaven a bent, beautiful bow, so long will the fascination of archery keep hold of the hearts of men."

Throughout the history of archery, the organized effort has kept the sport alive and growing, but it was the hunter who really spread archery all over the map.

Predated National

Archery in Pennsylvania actually predated the national move when the United Bowmen Club was organized in Philadelphia on September 3, 1828. But not until 123 years later, when the first official archery season for deer was opened in this state, did things really begin to happen. Organized archery itself benefited much from the great increase in the number of archers who took to the purple hills of Pennsylvania for deer.

Although some of us had challenged the gun's right to the harvest before the special seasons, we were a small minority. As the interest in deer hunting with the bow continued to grow, clubs were formed in many areas of the state. Initially, these clubs were formed by a nucleus of hunters who wanted to improve their shooting. Field courses with unknown distances provided a secondary challenge to the hunter with the bow.

Gradually, competition caused changes as many found ways to beat the system and rules were relaxed to give everybody an equal shot at the target. Marking of distances was the first step toward taking away from the hunter his closest semblance to instinctive shooting. Introduction of sights, string walking, face walking, three-fingers-under and a few other modifications clouded the issue. The hunter drifted away. Although the heavy tackle class was retained for his benefit, he was ashamed to turn in scores that reflected upon his shooting ability when he was up against refinements in archery tackle undreamed of

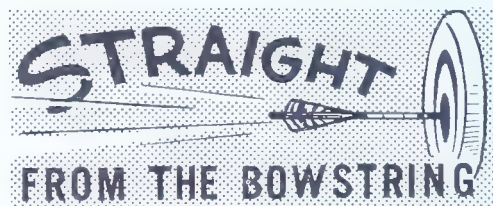
when he first started shooting the range.

These are facts rather than complaints. Progress has its price. However, the price need not be as high as it has been in organized archery. There must be a way to entice the bow hunter back so that he will regain and retain his interest in organized archery. One of the best ways is with a hunting contest.

Many clubs already conduct contests of one sort or another for hunting members. For those who have none, a rundown on the one conducted in our local club last year, and which is being continued, might provide some clues. It is used as an example here because of personal involvement and because it has proven out in practice.

It should be pointed out first that attractive deer awards in the form of lapel buttons are given by the Pennsylvania State Archery Association. A bronze button with the replica of a buck deer's head is presented for the first kill, a silver button for the second and a gold button for the third. Not more than three awards are made to one individual.

In setting up our local hunting contest, consideration was given to the fact that bow hunters find many targets throughout the year in addition to the regular hunting seasons. Consequently, weight was given to kills in all legal classifications for game species, varmints, and aquatic species. The point was raised that a hunter might easily outdistance all competitors if he should hit the spawning run of carp in mid-spring. This one was neatly solved when someone recommended that no more than 50 points be permitted in any one category. Ap-





WINNERS OF THE BERWICK Archery Club's hunting contest last year were Dick Beck, first place, Gary Shingler, third, being congratulated by President Bill Sutliff, and Keith Schuyler, Jr., second.

parently we got off to a good start, because when the contest was renewed for this year, no changes were made in the number of points awarded for each species (except that the wildcat was dropped).

Careful consideration must be given, not only to the normal difficulty encountered in hunting for each species, but also for its availability. For example, if a deer was weighted too heavily, one contestant might easily win or place with one lucky shot.

The black bear was weighted at 50 points (when legal), since the possibility of a score on this species is remote, and bow hunters must compete with the guns in season. On the other hand, a deer receives no more than 25 points whether it is a buck or a doe, with the exception that one point is added for each antler point measuring one inch or more. For example, a 10-point buck would score 35, whereas a button buck would receive no more than 25 points, the same as for a doe.

Other species were weighted as follows: turkey or goose, 20; great horned owl, 12; fox, either red or gray, 10; ring-necked pheasant, duck, grouse, quail or dove, 8; raccoon, porcupine

or woodchuck, 6; squirrels, red or gray, rabbits, hares, skunks, opossums, 4; legal fish, which include carp, suckers, eels and gar, 4; unprotected birds, which include the starling, kingfisher, bluejay, English sparrow and barn pigeons, 3; rats, 2; chipmunk, water snakes, copperheads and rattlers, 1.

No exceptions were permitted. For example, although black snakes are unprotected, no points are given since it is a general feeling that, in most instances, these snakes should not be shot. Some may even feel the same way about copperheads and rattlers, because of their generally good habits, but it is seldom that they will be passed up. They do pose a possible threat to humans.

In the event of a tie, the two top contestants will shoot the first five targets on the field course of Berwick Archery Club. If this does not break the tie, shooting will continue until one contestant has a higher score at the end of a target. A three-dollar entry fee is required. The money is used to defray expenses of the contest and to purchase trophies. Scoring starts for the individual contestant at the time of payment, with the cutoff



FISH, TOO, MAY BE taken for contest points. Carp, as shown here, are worth four points each with a limit of 50 toward total.

date of March 31, for regular members. New members coming in after that date may sign up for the balance of the year.

A question immediately arises as to how such a contest can be policed. We operate on the assumption that bow hunters are sportsmen. The only requirement is that all entries be taken in fair chase as defined within the Pennsylvania game laws. All entries must be taken within the boundaries of Pennsylvania for scoring. At least one other person, to be named on the entry, must certify to the kill. This may be anyone, including a member of the family. Witnesses are required to see only the carcass, not the kill. All contestants are simply put on their honor to play the game. Reports are due the club secretary no later than 31 days after the kills are made. Each contestant receives a supply of forms on which he can make reports.

Anyone convicted of a game violation forfeits his rights to any prize.

Things sometimes look better on paper than they prove out in practice,

but this contest waxed hot and heavy during the period including up to the end of the extended deer season.

Keith Schuyler, Jr., got off to a run-away early start when he caught the spawning run of carp in the Susquehanna and made a killing to collect his maximum of 50 points for fish. However, Gary Shingler collected on ten suckers and some water snakes and turtles while on a camping trip. Meanwhile, Dick Beck found a bonanza of barn pigeons and filled out in this category. As of December 1, the score was Beck 95, Shingler 92 and Schuyler 88. A deer kill for any of the three would have provided an almost certain first place. However, none was successful. When the contest ended on January 16, Beck had increased his score to 104 points. A porcupine, shot on a deer hunting trip, pushed Schuyler two points ahead of Shingler to make it extremely close for second and third place.

The total bag from the first four places in the contest makes an interesting collection. There were 21 carp, 10 suckers, 6 water snakes, 3 snapping turtles, 3 starlings, 1 dove, 17 barn pigeons, 4 porcupines, 3 woodchucks, 6 rabbits, one skunk, 11 rats, 6 opossums, 4 chipmunks and 1 gray squirrel.

Make Trophies Impressive

Possibly the most important fact to bear in mind in setting up any such contest is to ensure that the trophies are impressive and commensurate with the effort involved in winning. These trophies were presented as one of the features at the annual banquet when proper recognition was given to the winners. Incidentally, trophy recognition was also given to two members who shot deer with the bow and arrow, although neither was entered in the contest.

It is true that not every person who carries a bow can be enticed into joining a club, but wherever there is a bale of hay with a target on it, there is a potential member. By combing

the roster of those who buy bow hunting tags in your county, you have a ready made list of prospects. But once you get them in as members, be sure that your total program includes something for everyone. Success of those clubs which use three-dimensional targets, and others which place emphasis on the heavy tackle division, is a sure indication that bow hunters do enjoy organized archery.

National Field Archery Association, which no longer has an organized affiliation in Pennsylvania, has conducted hunting contests for many years. This becomes quite involved since species from all over the United States must be considered in weight-

ing each target. Consequently, the idea is certainly not new. The fact that there is recognition given by some of the largest organized groups should be an indication that it does have appeal.

This is an excellent time to plan such a contest for 1972. The end of any extended deer season provides a practical cutoff date. A new contest can conceivably begin the day after.

A hunting contest does add interest to the overall club program. Those who hunt will be more alert to side opportunities to pick up points while helping to hold down the predatory population. In our club a rat is no longer a rat. It's 2 points!

Book Review . . .

The Shotgun Stock

The art of shooting a shotgun has long fascinated many authors. That it is an art instead of a mechanical skill, as is rifle shooting at stationary targets, has confounded most of them. In all such writings there is some cryptic mention of "stock fit" and if one is going to do well on flying game or thrown targets he must somehow acquire a shotgun that provides this. Bob Arthur's book *The Shotgun Stock* offers some sound advice on how the shooter may acquire such a gun. He analyzes the strengths and the shortcomings of modern smoothbore stocks. I expected to find the author roundly condemning American manufacturers (as frequently occurs in such specialized books). This he did not do; in fact, he even had a few kind words about them. To be sure he was not overjoyed about such typically American innovations as plastic stocks and white-line spacers, but neither are most serious shotgunners . . . and Mr. Arthur is most surely a serious shotgunner. Who else would make up numerous "try guns" of his own, building up the stocks with plastic wood and balsa until they suited him perfectly, and then having duplicate models made up by a professional stockmaker?

From an appearance standpoint, Arthur's idea of a shotgun stock will not warm the heart of some traditionalists. I do have an advantage over others who might review his book since I have had one of his experimental shotguns in my hands. It did point and handle well and he does shoot it effectively. And that is really what the shotgunning game is all about.

This heavily illustrated book is pleasant reading for any shooter and most especially for the smoothbore fan who is more than casually interested in finding out why he hits with one gun and not with another. (*The Shotgun Stock*, by Robert Arthur, A. S. Barnes, Cranbury, N. J., 08512, 1971. 175 pp., \$12.)



DON LEWIS DISCUSSES ITHACA'S LSA 55 rifle with Lynne Johnson, Marketing Director for Ithaca Gun Company, during recent meeting of the Pennsylvania Outdoor Writers Association at Lake Wallenpaupack.

***Wish You Were Back in the '30s So You Could Buy a REAL Rifle?
May I State Emphatically . . .***

Don't Undersell Today's Rifles

By Don Lewis

Photos by Helen Lewis

"I SURE HATE to give the 30-40 up, but the recoil is just more than I can stand," a friend of mine related as he handed me his Krag.

"This is a fine shooting old army rifle, Clyde. You may not find another one that will cut tight groups like this one," I answered.

"Well, you know how much I shoot. It's not that just a few rounds during the big game season would bother me, but I keep in practice all summer and then fire four or five boxes prior to opening day. According to medical reports, I've got a shoulder full of bursitis, and too much recoil puts me in real misery. I'm hoping you'll find something that won't kick too much."

Clyde didn't mention money, but the reason he didn't buy a new 6mm or 243 was that he lived on a small pension and didn't have extra money for guns. Luckily, he had bought a good loading outfit prior to his retirement, and this allowed him to load and shoot more than he would have been financially able to do otherwise. I knew he wanted me to make an even trade.

After he left, I thought about buying the scarred Krag, since I knew it was exceptionally accurate. I had fired it a number of times, always managing to stay well under three inches at 100 yards. I didn't have long to think about what to do. Later that same

evening, the owner of a hardware store called me and asked if I knew where he could locate a Krag. I informed him I could help him out if he could come up with a deer rifle that didn't have a lot of recoil.

It seemed to me that he was never going to answer, and when he did, it was a long drawn out story. He suggested I give him the Krag and within a few days he would find just what I wanted. I thanked him for his thoughtfulness but decided to hang onto the 30-40. Just as we closed the conversation, he told me to sit tight for a moment; he had just remembered a rifle that might answer my requirements.

An hour later found me in his store looking at the most dilapidated Model 40 Savage, 300 caliber I had ever seen. To make matters worse, an early vintage scope had been installed, using improvised mounts. Admittedly, Clyde's Krag had had the barrel shortened, and the stock had been checkered with a penknife, but it looked like a custom job in comparison with the Model 40.

"Do you expect me to trade a perfectly good Krag for that old-timer?" I asked.

"It's not so bad," the store owner countered. "I remember distinctly that the fella who traded it in stated this rifle shot like the dickens and was mild as a 222."

"I'll bet he said that," I answered as I removed the bolt. The barrel was clean as a whistle. A closer look made me realize that this rifle was not as bad as I first thought. I made an agreement to try the rifle for a day and return it for the Krag if not satisfied.

The next evening found me tinkering with the Model 40. The scope was battered and showed plenty of parallax. By moving the reticle housing I took most of that out. But there wasn't much else I could do for the aged rifle, and I felt certain Clyde would turn thumbs down when he saw it, even though he was getting a scoped rifle on an even trade for the open-sighted Krag.



SINGLE SHOT M219 Savage 30-30 with Weaver K4 scope gave excellent woods accuracy during Lewis's testing, with three consecutive groups of 2½ inches at 100 yards.

I grabbed a box of handloads and headed for my benchrest. It took a few shots to get in the bullseye. Since the evening shadows were cutting down on my vision, I decided to shoot just one group just to see what the old musket would do. I had no spotting scope set up, and with the problems produced by the battered scope, it was the third shot before I managed to see a hole in the top of the 3-inch bull. Unless I was mistaken, the other two shots were also in the bull, and I fired the last two and could hardly accept the fact that there were no holes showing in the area around the bull. When I walked over, I could hardly believe my eyes; all five shots were in one jagged hole less than an inch in diameter. I hurried back to the benchrest and fired the remaining six shots. I didn't cut another one-holer, but a half dollar covered all these shots. I knew if Clyde didn't take the rifle, I would. As I walked back from



the target, it dawned on me that I hadn't noticed any recoil!

Clyde was not impressed. He tried to be tactful and not hurt my feelings, but it was obvious that he wanted no part of my deal. I finally suggested that he fire some shots from the bench before I returned the rifle. To humor me, he did. He not only fired a few shots; he fired four groups and kept all of them under three inches, with one not much over an inch and a half. That kind of grouping is good with any big game rifle regardless of age.

Many people feel that today's product suffers by comparison with the big game rifles made in the '20s and '30s. I won't contradict or even argue with that belief, so long as it is confined to general machining, hand finishing, and closer inspection of the finished product. However, when it comes to accuracy, I'll have to defend what comes off the assembly line at the present.



ONE OF LEWIS'S favorite modern rifles is the Ruger M77 in 308 caliber with 3-9x Leupold scope. Investment casting is an important part of this rifle's manufacture, differing from older methods.

During the last 15 years, I've fired about everything that can be considered big game outfits in Pennsylvania. Rifles of all makes, models, and calibers have crossed my workbench and benchrest. Always interested in rifle shooting, especially in the hunting rifle, I suppose I have fired more than most shooters. The years that I hand-loaded, I shot extensively. All in all, I've been most fortunate to have been associated with actually hundreds of big game rifles. Group shooting with these rifles has always interested me, and during the course of sighting in several thousand, I have learned what to expect from today's hunting rifle. I usually fired a 3- or 4-shot group after zeroing in a rifle, and the results I've obtained from my own testing are conclusive proof that there is no sound reason to doubt the rifle that is manufactured in the space age.

First One-Hole Group

Certainly, not every rifle gave the excellent results of the old Model 40 Savage I just described, but over a span of fifteen years, I've seen some remarkable groups from outfits that are considered just hunting rifles. Now don't misunderstand me. I mentioned the one-holer that I fired with the Model 40 because it does show that looks can be deceiving and don't have a thing to do with how a rifle shoots. Also, this was the first one-hole group I had fired from a regular hunting gun. I'm constantly informed by well-meaning shooters that their particular rifle will do wonders from the benchrest, but in all the shooting that I have done since the day I fired the Model 40, I have not fired more than a dozen 5-shot one-hole groups with a factory produced big game rifle.

This is not to be construed that I consider this to be a low score. On the other hand, I feel that too much fuss is made over the one-hole group. It's got to the point that many hunters feel their rifle is inferior if it won't keep all its bullets in a group of less than

an inch. To lay it smack on the line, one-hole groups or groups that run an inch or less just don't come as easy as some make it sound. In fact, other than a special benchrest rifle or one that is definitely accuracy oriented, cutting a one-hole group with a big game rifle is really more of a piece of good fortune than a true showing of the rifle's or shooter's potential.

Freak Groups Happen

Every now and then, I shoot a very small group with a rifle that normally shoots consistent groups of 3 or 4 inches. This one small group does not influence my thinking enough to make me believe the rifle has improved. I know for a fact that the group came about through a combination of things, and that the rifle still has and probably will have a 3-inch potential.

I am sure that as the scope gains in popularity, many hunters and shooters are expecting far too much from their favorite rifles. With open sights, they would have been very pleased to keep five shots in a 6-inch circle at 100 yards, but the minute the scope is installed and the target appears brighter and nearer, they expect the same rifle to shoot inch groups.

Unfortunately, there is a good bit of misunderstanding about accuracy. There are many things that affect the flight of a bullet. Air currents, a poor sighting arrangement, and, above all else, the inability of the shooter to fire a string of shots without some change in the hold, trigger pull, or shooting stance. Even the slight difference in carefully loaded shells will change somewhat the point of a bullet's impact. When all the factors are weighed carefully, it's not hard to see that even with a superb rifle, the chance of getting consistent, tight groups is very small.

I have a Remington 40XB-BR 222 scoped with the fine 20X Redfield 3200. This particular rifle has a short,



RAY JOHNS ALSO FINDS today's rifles—a M760 Remington 30-06 here—to give excellent accuracy, better on the average than those made back in the "golden '30s."

heavy 20-inch barrel bedded in a flat beavertail foream. It has a single shot action with a two-ounce trigger that puts this rifle in the class designed for accuracy. If match bullets are used, the cases trimmed after every shot, and the powder charges weighed to 1/10 grain, this rifle will cut one-holers on a still evening. Yet, there are times when I have trouble keeping all the shots in an area as large as an inch. This proves to me that the shooter contributes more than he thinks to good or poor shooting.

I brought out this point about this exceptionally fine rifle because I'm a little upset over the constant belittling that today's rifle receives while comparing it with the old rifle that granddad or some favorite uncle used to shoot a truckload of deer. I agree that the rifle turned out today lacks in many respects, but so do today's cars, houses, clothing, and practically everything else that is mass produced. We live in a vastly different era; mod-



MORE OF TODAY'S deer-getters: M88 Winchester 308 with Bushnell scope, left-hand Savage M110 in 270 caliber with Bausch & Lomb 2½-8x, and slide action M170 Savage 30-30 with Savage variable power scope.

ern technology along with computers and mass production have taken us forever from the 12-hour day when practically every operation was tediously done by hand. There are no doubts in my mind that the early Remingtons, Savages, and Winchesters were examples of craftsmanship at its best, but this does not mean that what we produce today is of inferior quality.

I appreciate the products of the gas light era and the depression years. I have a Winchester Model 71 348 made around 1936 that is a shining example of machining as it should be. Many times each year, I get the old 348 down from the rack just to look at it. But with all that it entails in pride and workmanship, it is not a caliber or a model that fits into today's hunter's philosophy. Even if the 71 Winchester or the 141 Remington, plus dozens of other makes and models that have dropped by the wayside, would be put back in production, it's unlikely that any one of them would

be a smash hit on the retail market.

Sad as it may seem to many hunters, the past with its famous rifles and different standards of workmanship is beyond the reach of all of us. It is gone, and there's no logic in constant weeping by its grave. Although many modern gunwriters still refer to the 1920s and 1930s as the golden days of hunting and gun making, the modern hunter cannot go back; he must use what is available and hunt where it is permissible. I, for one, am not going to cling to memories. I may often refer to the gun of yesteryear, but I'm going to stick to my solid belief that today's product is not an inferior piece of mass production that relegates today's fire arm to the category of mere junk. Far from it. I emphatically believe that even with gun stocks made by computers in seconds, barrels that are rifled in less than a minute, and actions that are made from investment castings, the firearms that come from the assembly lines this year will be on par and in some respects outperform the hand-rubbed versions of the World War I era.

Six Shots in Two Inches

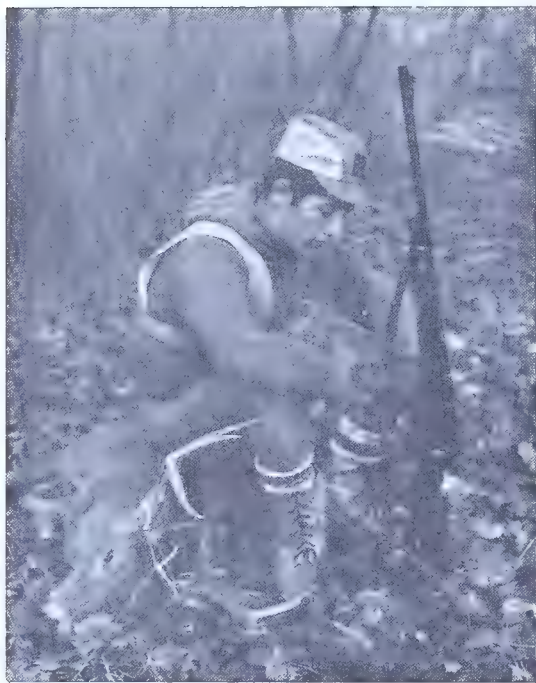
To prove to myself that I was not going overboard with my evaluation of today's rifles, I fired six shots from a new Model 170 Savage 30-30 pump scoped with the Savage 1½x4 Suwa scope. I used one of my favorite loads for the 30-30—36 grains of 4895 behind a 150-grain flat nose Sierra bullet with the 8½ Winchester / Western primer. Earlier chronograph reports showed this load to be hitting 2350 fps. With the scope set at 3X, I fired all six shots into a 2-inch group at 100 yards. This particular pump rifle is as modern as they come and sells for less than a C note without the scope, and who can kick against accuracy of this type?

I've done a lot of shooting with many of the so-called "slapped together" versions that are coming from

Typical Hunting Rifle Shooting Results

Rifle	Caliber	Scope	Bullet	Load	Velocity	Group #1	Group #2
M70 Winchester	243	Unertl 4X	105-gr. Sierra	41/4350	2877	1 1/4	1 1/4
M700 Remington	6mm	Weaver 4X	75-gr. Sierra	40/4064	3378	1	1 1/4
Mark V Weatherby	240	Weatherby 2-7X	105-gr.	51/4831	3095	1 1/4	1 1/4
M700 Remington	25-06	Redfield 4X	120-gr.	Factory	—	2	1 1/4
Sako	270	Leupold 2-7X	130-gr. Hornady	60/4831	3115	3/4	1 1/4
M70 Winchester	270	Unertl 4X	150-gr. Sierra	46/4895	2690	1 1/4	1 1/4
M760 Remington	280	Redfield 3-9X	140-gr.	Factory	—	2 1/4	2 1/4
M88 Winchester	284	Unertl 4X	150-gr.	Factory	—	2	2 1/4
Ruger No. 1	7x57mm	Weaver 6X	140-gr. Sierra	43/4895	2670	1 1/4	1 1/4
Browning	7mm Magnum	Leupold 3-9X	140-gr.	Factory	—	1 1/4	1 1/4
M700 Remington	7mm Magnum	Redfield 4-12X	145-gr. Speer	46/Rel. 21	2701	1 1/4	1 1/4
M170 Savage	30-30	Savage 1 1/2-4X	150-gr. FN	36/4895	2350	2	2 1/4
M94 Winchester	30-30	Bushnell 4X	170-gr. FN	Factory	—	3 1/4	3 1/4
M340 Savage	30-30	Savage 1 1/2-4X	150-gr. FN	32/Rel. 11	2204	3 1/2	3 1/2
M99 Savage	300	Weaver 4X	150-gr. FN	Factory	—	2 1/4	2 1/4
Krag	30-40	Bushnell 2 1/2-8X	200-gr. RN	46/4831	2001	2 1/4	3 1/4
M760 Remington	30-06	Redfield 3-9X	150-gr.	Factory	—	1 1/4	2 1/4
M1917 Enfield	30-06	Weaver 2-7X	180-gr.	Factory	—	2 1/4	2 1/4
M1903 Springfield	30-06	Stoeger 3-9X	165-gr. Speer	49/4064	2795	2 1/4	2
M70 Winchester	30-06	Redfield 2-7X	150-gr.	Factory	—	2 1/4	2 1/4
M721 Remington	300 H&H	Weaver 4X	180-gr. Sierra	63/4350	2604	2 1/4	2 1/4
M336 Marlin	32 Spl.	Bausch & Lomb 2 1/2-8X	170-gr. FN	37/4350	1888	3 1/4	3
M94 Winchester	32 Spl.	Bushnell 2 1/2-8X	170-gr. FN	37/4350	1876	3 1/4	3 1/4
M98 Mauser	8x57mm	Tasco 6X	170-gr. Speer	50/4895	2595	3 1/4	3 1/4

NOTES: The above information is presented for the reader's interest. It depicts actual results obtained by Don Lewis while routinely test firing the rifles, scopes and loads listed. Shooting was done from benchrest at 100 yards. Groups are of 5 shots. Velocities were taken at 15 feet on an Avtron K233 chronograph; they are averages of 5 shots. The handloads listed are for information only; they are not necessarily recommended as suitable in anyone else's rifles. Handloading information should be obtained from the manuals devoted to this subject and following the procedures recommended therein. Results above should be of particular interest to hunters, as they indicate the kind of accuracy which is normal to standard weight hunting rifles and which can probably be expected from other rifles of this class. Despite what many other gunwriters have claimed, it can be seen that sub-minute of angle groups are not common, but averages are good.



TIM LEWIS TAKES A breather while dragging in a nice 9-point buck, admires the M71 Winchester 348, built in the '30s, that collected it. This gun is believed by many old hunters to be the smoothest lever action ever built.

the assembly lines, and I honestly can't see what all the fuss is about. The products are functionally sound, will give years of trouble-free service, and are impressive looking. Along with having an edge in accuracy over most older versions in big game rifles, the modern product is stronger and lighter in weight. What more can a shooter ask?

I have plenty of faith in our mass-produced, assembly line product. I have learned from shooting more than several thousand of practically every make, model, and caliber that the hunter who needs a new big game

rifle need not feel that he's out of luck, nor should he bemoan the fact that the rifle he buys is not practically handmade. I admit that sometimes I wish the manufacturers would not use any tenite, plastic, or pressed metal parts, but I can't honestly give a good reason not to since the modern product is just as dependable, rugged and accurate as the hundreds of older models I have worked on and fired through the years.

Mostly Psychological

It's mostly psychological, stemming from a belief that Granddad's rifle lasted for forty years without a failure. Maybe some of this thinking is true, but from past gunsmithing days, I repaired plenty of these faithful game getters during the course of a year. Granddad's rifle may have lasted forty years, but so did Grandmaw's kitchen coal stove, living room suit, and hand washtub. I remember a tiny bit of those days, and I'm glad things are different.

I know exactly all the attributes of the early models, but each year these guns get fewer and the new hunters coming on have no choice but to purchase the mass-produced rifle. My suggestion to those who still doubt the modern product is to really put one through the paces. The end result may change a lot of one-sided opinions. From first-hand knowledge with both the early and modern products, I still have faith in today's rifle and believe that the loss of a trophy may be more the shooter's fault than the rifle's. As I said in the title, "Don't undersell today's rifle."

Looking Backward . . .

"Very few deer have been killed during the season just closed. The deepest snow (about five inches) fell on the last day." ["Raftsmen's Journal," Clearfield, January 4, 1882.]

INDEX

ARCHERY

- After You Score—Keith C. Schuyler JAN
 The Long, Short Season—
 Terry L. McCormick FEB
 Inside Shots—Keith C. Schuyler FEB
 For Golds and Game—
 Keith C. Schuyler MAR
 How to Hit the Target—
 Keith C. Schuyler APR
 Equipped for Carp—
 Keith C. Schuyler MAY
 Winds of Change—Keith C. Schuyler JUN
 Conclusions on Campus—
 Keith C. Schuyler JUL
 Seven Springs—Keith C. Schuyler AUG
 Skill to Score—Keith C. Schuyler SEP
 White-Tailed Deer!—
 Keith C. Schuyler OCT
 A Chance to Choose—
 Keith C. Schuyler NOV
 Hunting Contests—Keith C. Schuyler DEC

CAMPING

- Camping Potpourri—Les Rountree JAN
 First-Aid Refresher Course—
 Les Rountree FEB
 Clean Gear Lasts Longer—
 Les Rountree MAR
 What About Self-Contained Campers?—
 Les Rountree APR
 The Campers Are Coming!—
 Les Rountree MAY
 Take Pictures This Year!
 Les Rountree JUN
 Set an Eco-Example—Les Rountree JUL
 Camping More—Enjoying It Less?—
 Les Rountree AUG
 Woodcock in Wine—Les Rountree SEP
 Light on the Subject—Les Rountree NOV
 Mark the Catalogs!—Les Rountree DEC

CONSERVATION & EDUCATION

- New Method of Spoil Bank
 Reclamation?—Mort Levy FEB
 Can You Give Us a Conservation
 Project?—Joseph B. C. White MAR
 A Look at Ontelaunee—Brooke Focht JUL
 The Ecosystem in Wildlife
 Conservation—
 Donald S. Heintzelman AUG

DOGS

- Portrait of a Setter—
 Kay and George Evans JAN
 What They Mean to You—Nick Sisley MAR
 The Key—Experience on Birds—
 Nick Sisley APR
 Retrieving Dog Field Trials—
 Nick Sisley MAY

Beagle and Beagle Trials—

- Nick Sisley JUN
 How Good Is Your Coon Hound?—
 Nick Sisley SEP
 Heartworm Disease in Dogs—
 R. Lee Pyle, B.S., V.M.D. OCT

FICTION

- Cave Rat—Carsten Ahrens MAR
 Instant Wilderness—Bill Walsh MAY
 Penn Wood Folk—John Guilday JUL

GUNS & FIREARMS SAFETY

- Hints for 1971—Don Lewis JAN
 How to Buy a Rifle—Don Lewis FEB
 Rifle Retired?—Albert G. Shimmel MAR
 A Look at the Semiauto Shotgun—
 Don Lewis MAR
 Handloaders Need Chronographs—
 Edward M. Yard APR
 Choosing a Chuck Scope—
 Don Lewis APR
 Now's the Time to Install a Scope—
 Don Lewis MAY
 The Burma Ithaca—Bob Latimer JUN
 Chucks With a Regular Rifle—
 Don Lewis JUN
 King of the Deer Rifle Cartridges—
 Don Lewis JUL
 Gun Leather—Gene West JUL
 Little Poison—the 17-Caliber—
 Don Lewis AUG
 Rebirth of a Wildcat—the 22-250—
 Don Lewis SEP
 Shooting Accessories—Don Lewis OCT
 The Case for Shotgun Slugs—
 Don Lewis NOV
 Don't Undersell Today's Rifles—
 Don Lewis DEC

HISTORY

- The Jasper Pits of Vera Cruz—
 Tom Fegely MAY
 Where the Wildcat Screamed—
 Don Neal AUG
 Nessmuk—Robert L. Lyon NOV

HUNTING

- Baker's Dozen—Paul Suscavage JAN
 Please—Bear With Us!
 Leo A. Luttringer and
 Hayes T. Englert JAN
 The Dean Observes a Diamond
 Anniversary—John Crowe JAN
 No Need to Hurry—
 Eugene P. Marinella FEB
 Then There Was One—
 Albert G. Shimmel APR

Dad's Hunting Horn—	
Albert G. Shimmel	MAY
250 Ringnecks Ago—	
Rev. George L. Harting	JUL
Pennsylvania Woodchuck Memories—	
Ritchie R. Moorhead	JUL
How to Find Grouse Without Fail—	
Byron W. Dalrymple	AUG
Frustrations and Rewards—	
W. W. Britton	AUG
The Bird That Advertises for Hunters—	
Byron W. Dalrymple	SEP
The Gobbler of Dead Woman Hollow—	
Ed Shenk	SEP
Ringnecks Should Be Abolished—	
L. James Bashline	SEP
The Big Sneak for Geese—	
Byron Dalrymple	OCT
Gimme Pheasants—Steve Kresge	OCT
A Bear Is Number One—	
Dave Drakula	NOV
Still-Hunting Sir Ruffneck—	
Archibald Rutledge	NOV
Mixed Bag Along the Chillisquaque—	
W. L. Miller	NOV
High Rock Crossing—John Crowe	NOV
Another Dynamic Duo—Nick Sisley	NOV
It Was a Good Day—George Scanlon	NOV
We Holler Loud!—Mike Ferchaw	DEC
12-Point Buck With a Bow—	
Robert Kirschner	DEC
I'll Long Remember—R. Parish	DEC
Persistence Pays—Ritchie Moorhead	DEC
A Mended Memory—F. E. Mazur	DEC
Last Man Gets the Buck—	
David S. Bair	DEC

MISCELLANEOUS

Financial Report 7/1/69 to 6/30/70—	
John Smith	JAN
Noise!—Eugene R. Slatick	APR
Biennial Report 7/1/68 to 6/30/70	JUL
Field-Dressing a Deer—Ned Smith	NOV
Game Commissioner Heads	
Trapshooters—	DEC

NATURAL HISTORY

The White-Tailed Deer—	
Leonard Lee Rue	JAN
Wintertime Sleepyheads—	
Wilbert N. Savage	FEB
Harbinger of Spring—Ken Calnon	FEB
The Great Horned Owl—	
Leonard Lee Rue	FEB
Made to Fly—Eugene Slatick	MAR
Let's Look at Pennsylvania's	
Loons—Donald S. Heintzelman	MAR
The Woodland Drummer—	
W. W. Britton	MAR
The Raccoon—Leonard Lee Rue	MAR
Rare Visitors—Tom Fegely	APR
The Cottontail Rabbit—	
Leonard Lee Rue	APR
Snakebite and the Hunter—	
William B. Allen, Jr.	APR

Mostly About Amphibians—	
Carsten Ahrens	MAY
Tamarack Swamp—A Relic Colony—	
Albert G. Shimmel	JUN
The Ways of the Wind—	
Eugene R. Slatick	JUN
Eastern White Oak—Ken Calnon	JUN
The Ring-Necked Pheasant—	
Leonard Lee Rue	JUN
Common Mullein . . . a Genuine Pioneer	
Carsten Ahrens	JUL
Summer Wildflowers—Ken Calnon	JUL
The Box Huckleberry—	
David R. Thompson	AUG
The Timber Rattlesnake—	
Leonard Lee Rue	AUG
Stupid, They're Not—	
Albert G. Shimmel	SEP
Save the Wetlands—	
J. Almus Russell	SEP
Elasticity Makes for Longevity—	
Carsten Ahrens	SEP
The Gray Squirrel—Leonard Lee Rue	OCT

OUTDOOR GEAR

Chain Saw Safety—Jim Hayes	MAR
Knives for Big Game Hunters—	
Gene West	APR
Get a Bird's-Eye View of Your Hunt—	
James Fazio	JUN
Pennsylvania Has the Edge—	
L. James Bashline	OCT

RECIPES

Venison Jerky—George E. Dolnack, Jr.	SEP
---	-----

RECREATION

Backpacking—Del and Lois Kerr	JUL
Penn State's Winningest Team!—	
Mort Levy	AUG

RESEARCH

Evaluation of Game-Farm and Wild	
Trapped Turkeys in Pennsylvania—	
Gerald A. Wunz	JAN
Antlerless Deer License Allocation	
Systems—Harvey A. Roberts	FEB
Transplanted Wild Pheasants—An	
Answer—Fred E. Hartman	MAR
The Ups and Downs of Rabbits—	
John Kriz	MAY
Ferretting for Facts—Dale E. Sheffer	MAY
Hold Old Is That Chick?—	
Fred E. Hartman and	
Dale E. Sheffer	JUN
Antlerless Deer License Allocations—	
Lincoln Lang	OCT
Wild Turkeys and People Pressures—	
Gerald A. Wunz	OCT

TRAPPING

Professional Fox Trapping Tricks—	
Ray Beck	FEB
Prospecting for Fur—Ray Beck	AUG

Pennsylvania Game Commission Directory

P. O. Box 1567

South Office Building, State Capitol, Harrisburg, Pa. 17120

GLENN L. BOWERS	<i>Executive Director</i>
ROBERT S. LICHTENBERGER	<i>Deputy Executive Director</i>
EDWARD T. DURKIN	<i>Comptroller</i>
Division of Administration	
DANIEL H. FACKLER	<i>Chief</i>
Division of Research	
DALE E. SHEFFER	<i>Chief</i>
Division of Land Management	
HARVEY A. ROBERTS	<i>Chief</i>
Division of Law Enforcement	
JAMES A. BROWN	<i>Chief</i>
Division of Minerals	
JOHN B. SEDAM	<i>Chief</i>
Division of Propagation	
RALPH E. BRITT	<i>Chief</i>
Division of Information and Education	
ROY W. TREXLER	<i>Chief</i>

FIELD DIVISIONS

NORTHWEST DIVISION—Lester E. Sheaffer, Supervisor, 1509 Pittsburgh Rd., Franklin 16323. Phone: A.C. 814 432-3187 or 432-3188
Butler, Clarion, Crawford, Erie, Forest, Jefferson, Lawrence, Mercer, Venango, Warren.
SOUTHWEST DIVISION—G. L. Norris, Supervisor, 339 W. Main St., Ligonier 15658.
Phone: A.C. 412 238-9523 or 238-9524
Allegheny, Armstrong, Beaver, Cambria, Fayette, Greene, Indiana, Somerset, Washington, Westmoreland.
NORTHCENTRAL DIVISION—Raymond H. Morningstar, Supervisor, P. O. Box 38, Jersey Shore 17740. Phone: A.C. 717 753-5641
Cameron, Centre, Clearfield, Clinton, Elk, Lycoming, McKean, Potter, Tioga, Union.
SOUTHCENTRAL DIVISION—William A. Hodge, Supervisor, P. O. Box 537, Huntingdon 16652. Phone: A.C. 814 643-1831.
Adams, Bedford, Blair, Cumberland, Franklin, Fulton, Huntingdon, Juniata, Mifflin, Perry, Snyder.
NORTHEAST DIVISION—Norbert J. Molski, Supervisor, Box 220, Dallas 18612.
Phone: A.C. 717 675-1143 or 675-1144
Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Montour, Northumberland, Pike, Sullivan, Susquehanna, Wayne, Wyoming.
SOUTHEAST DIVISION—Temple A. Reynolds, Supervisor, R. D. 2, Reading 19605.
Phone: A.C. 215 926-6071
Berks, Bucks, Chester, Dauphin, Delaware, Lancaster, Lebanon, Lehigh, Montgomery, Northampton, Philadelphia, Schuylkill, York.

GAME FARMS

EASTERN GAME FARM—Joseph L. Budd, Superintendent, R. D. 2, Schwenksville 19473.
Phone: A.C. 215 287-8151
WESTERN GAME FARM—G. Russell Enlow, Superintendent, R. D. 1, Cambridge Springs 16403. Phone: A.C. 814 398-2212
LOYALSOCK GAME FARM—Jack N. Anderson, Superintendent, R. D. 2, Montoursville 17754. Phone: A.C. 717 435-2500
STATE WILD TURKEY FARM—Eugene P. Nelson, Superintendent, Proctor Star Route, Williamsport 17701. Phone: A.C. 717 478-2252
SOUTHWEST GAME FARM—Clarence Wilkinson, Superintendent, Box 1, Distant 16223. Phone: A.C. 814 275-2515
STATE WILD WATERFOWL FARM—Henry R. Pratt, Superintendent, R. D. 4, Meadville 16335. Phone: A.C. 814 382-3755

HOWARD NURSERY

SUPERINTENDENT—George Weller, R. D. 2, Howard 16841. Phone: A.C. 814 355-4434

TRAINING SCHOOL

ROSS LEFFLER SCHOOL OF CONSERVATION—Donald E. Miller, Superintendent, R. D. 1, Brockway 15824. Phone: A.C. 814 265-0456

Merry Christmas!

GAME NEWS

*A Great Christmas Gift
for Any Relative or Friend Who
Is Interested in Hunting, Nature
and the Outdoors*

1 Year (12 Big Issues)

ONLY \$2.00

2 Years (24 Big Issues)

ONLY \$4.00

3 Years (36 Big Issues)

ONLY \$5.00

GAME NEWS

PENNSYLVANIA GAME COMMISSION

Box 1567, Harrisburg, Pa. 17120





